AN ABSTRACT OF THE THESIS OF

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Title: A Descriptive Study of Hospital Utilization in Four Oregon Rural Counties

Abstract approved

David C. Lawson

A random sample of residents of four eastern Oregon counties was selected to determine the extent to which local hospitals were bypassed for care sought in hospitals elsewhere. Three hundred and two heads of households gave hospitalization information on 449 family members who had been hospitalized within the past two years. A researcher-designed instrument was used to tabulate and collect the information. Twenty-two items, many of which have multiple sections, comprised the Rural Oregon Hospital Selection Survey. Chi-square and the z statistic were used in the determination of significant differences between two types of hospitals in the study. Two counties were identified as having hospitals with stable-patient loads (SPL) and two counties had hospitals with declining-patient loads (DPL) over a time period of 1985-87. One rural hospital was located in each of the four counties. Among the results were significant differences between SPL and DPL counties relative to reasons given for selecting a particular hospital. Cost of care ($p = 0.001$), doctor's recommendation ($p = 0.004$), special services available ($p = 0.02$), and better equipment ($p = 0.02$) were

factors listed significantly more often by SPL residents than by DPL residents as to why a particular hospital was chosen.

SPL residents were more likely to opt for care outside their county of residence than DPL residents ($p = 0.001$). Primary sources of health information were as follows for SPL residents: (1) one's physician, (2) books and magazines, and (3) one's county hospital and friends, and for DPL residents: (1) one's physician, (2) pharmacists, and (3) one's county hospital.

Heads of household were asked to rate their level of satisfaction with care received, perceived availability of health care for their household, and with the importance of the local rural hospital to their household.

Additional information, such as insurance coverage, type of treatment sought, length of stay, and reasons given for going outside one's county of residence for care were tabulated and discussed. Demographics such as age, gender, income, and education were examined with relation to the various factors which entered into the decision to choose a particular hospital.

A Descriptive Study of Hospital Utilization in Four Oregon Rural Counties

by

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Table of Contents

List of Figures

List of Tables

List of Tables (continued)

List of Tables (continued)

A DESCRIPTIVE STUDY OF HOSPITAL UTILIZATION IN FOUR OREGON RURAL COUNTIES

CHAPTER I. INTRODUCTION

Economic and demographic changes in rural America have affected the quality of life and resulted in the emergence of a number of unwelcome problems. One of these problems endangered the entire way of life in many small communities throughout America: financing adequate health care for rural populations (American Hospital Association, 1987; Moscovice & Rosenblatt, 1982; National Association of Community Health Centers and National Rural Health Association, 1980). The economies of many small communities have been declining, characterized by falling agricultural and manufacturing rates of production and the growth of low income generating service industries. The result has been increasing rates of rural unemployment, declining income levels, and a shift of populations out of rural areas (American Hospital Association, 1987; Tauke, 1985). These factors, in combination with a declining rate of rural population growth, have left rural communities with an assortment of problems, including lack of access to adequate health care. Economic crises and obstacles to attaining adequate local means of health care finance have contributed to a declining patient load in many of the nation's rural hospitals (Pauly & Wilson, 1986).

The survival of rural hospitals is further jeopardized by requirements to provide health care for which these hospitals do not receive adequate

compensation. For example, the deteriorating financial condition of these hospitals has been exacerbated by the federal government's introduction of the Medicare "prospective payment system" (PPS, a reimbursement procedure which has inadvertently resulted in diminishing financial returns to rural hospitals in comparison to returns to urban hospitals), and by individuals who cannot or will not finance their hospital care costs (Guterman, Eggers, Riley, Greene, & Terrell, 1988; Kelly & O'Brien, 1983; National Association of Community Health Centers, 1980; Oregon, State Health Planning and Development Agency, 1985).

Rural hospitals do not have large inpatient populations to offset the number of poverty-stricken and uninsured medical care consumers. Moreover, with elderly people constituting high proportions of the populations of rural areas, local hospitals have provided care for patients who often cannot pay for services rendered and who require more costly types of care than do the non-elderly. Health services provided to the elderly are usually underpaid by Medicare (Cromwell, 1987). Adequate and affordable health care for the elderly population in rural areas thus represents a major area of concern for planners involved with rural health issues.

Because of the financial interdependence between rural populations and their community hospitals, local communities frequently take measures to preserve their hospitals as a means of reinforcing the local community. Residents are often asked to help rescue financially distressed hospitals through increased taxation. Therefore, the financial stability of the communities which these hospitals serve impacts a hospital's uncompensated care burden. For example, in Montana in 1985, nearly 70 percent of the rural hospital non-operating revenues were derived from tax dollars collected

from county and hospital districts (Baucus, 1987). As communities step in to offset expenditures, already scarce community resources are stretched even thinner to the point of financial crisis. Additional taxation is not a feasible response to the problem of achieving rural hospital financial stability. In addition, given the depressed economic conditions which affect individual incomes and inadequate insurance coverage, many community residents become reluctant to use existing health care facilities even when care is required (Rowland & Lyons, 1989). This, of course, results in a decline in hospital usage.

A substantial proportion of the nation's poorest populations continue to live in rural America and many of them have little or no insurance protection (Davis & Rowland, 1983). Hospital use by these indigent or impoverished populations, those who are the most likely to be unable to pay for hospital services received, is characterized by high levels of emergency room visits and high levels of outpatient visits (Brazzoli, 1986; Davis & Rowland, 1983; Farley, 1985; King County Health Planning Council, 1984; Mulstein, 1984). Nationwide, more than 45 million people are at risk of being medically indigent at any given time, and of this number, 56 percent are particularly susceptible to out-of-pocket hospital care costs (Brazzoli, 1986; Davis & Rowland, 1983; Farley, 1985). The lack of adequate insurance coverage for rural populations is approaching disaster status.

Another element which contributed to the complexities of providing adequate levels of rural health care is the inferior health condition of rural populations. Rural populations are more likely than urban populations to work in occupations (including mining, timber-related jobs, and farming) that are considered hazardous or unsafe (American Hospital Association,

1987; Donham & Mutel, 1982; National Association of Community Health Centers, 1980). Rural populations have a higher prevalence of cancer, stroke, kidney and lung diseases, glaucoma, and diabetes, and have higher infant and maternal mortality rates than do other populations (National Association of Community Health Centers, 1980; Oregon Association of Hospitals, 1986). This mixture of problems, including poor health levels, inadequate insurance coverages, and declining local economic conditions, has caused federal and state agencies to look more closely at issues of rural health (*Community health centers and the rural economy*, 1988).

Recent congressional attention has focused on rural health care issues as well. As Robert Harman, chairman of the American Hospital Association's Small or Rural Hospital Section has stated, "the feeling is that this is the year for rural hospitals in Congress" (Holthaus, 1989, p. 40).

Rural Health Care in Oregon

Since the early 1970s, the State of Oregon has sought to increase the availability of health care to its rural citizens. The state became involved in rural health care primarily through the grant programs of the Oregon Regional Medical Program, operated in conjunction with the Oregon Health Sciences University's Department of Family Practice, the Oregon Medical Association, the Oregon Nurses Association of Hospitals, and individual rural communities (Oregon, State Health Planning, 1985). Recent estimates indicate that there are nearly 100,000 rural Oregonians, or 7.4 percent of the total rural population, who are without basic medical resources and adequate levels of care (Oregon Association of Hospitals, 1986).

Persons living in rural health environments experience serious difficulties obtaining health care, as well as acquiring the facts and knowledge designed to promote health and prevent premature illness, death and/or disability (Oregon, Department of Human Resources, 1986). Although researchers have attempted to assess the specific problems experienced by individuals living in rural settings, most have obtained their information from indirect sources such as hospital records, death certificates, and state and county records.

Need for the Study

Many hospitals in America are in danger of closure. Local hospitals are closing in the United States at the rate of 40 per year (Hornik, 1989). Local rural hospitals, one of the primary sources of medical care for rural populations, are among those institutions most affected. Since 1980, four rural hospitals have closed in Oregon, leaving the residents served by these hospitals without any major source of local medical care. Their closure was precipitated by decreasing patient loads which undermined the financial security of the hospitals (Franck-Weiby, 1989).

Numerous rural health concerns have been brought to the attention of the Congress of the United States with regard to rural health issues These issues have included the following questions (Patton, 1989):

> To what extent do local residents bypass their rural community hospital to seek care in a facility more distant? What is the basis of their decision (quality, cost, insurance requirements, other reasons)? Are there regional, state or county differences in the extent to which rural residents seek hospital care outside of their county of residence? Can we identify systematic differences between rural hospitals with high and low levels of patronage by community residents? (p. 1016)

Professionals specializing in rural health issues have encouraged research involving rural residents identifying the quality and quantity of health care services for populations within specific geographic areas and any effects of poverty upon the state of local health care (Hersch & Van Hook, 1989). One of the current priorities of the National Office of Health Policy is the guarantee of the viability of small rural hospitals that are critical to the provision of primary health care in rural areas.

Statement of the Problem

The purpose of this study is to determine why patient loads in rural hospitals are decreasing. The following objectives were developed for this study:

1) Identify the number of people in four rural Oregon countires who select their county hospital in which to receive care and the number of people in these same counties who opt for care in other hospitals;
2) Identify reasons given for selecting a particular hospital by this same population;
3) Identify the primary sources of health information for this rural population; and
4) Collect information from this population regarding perceived satisfaction with care received in their county hospital, perceived availability of health care for the household, and the perceived importance of the local rural hospital.

Hypotheses

Ho_1: There are no significant differences between stable-patient-load counties and declining-patient-load counties in the number of patients who seek treatment in their local county hospital and the number who opt for care in hospitals outside their home country.

Ho: N stable = N declining

Ho_2: There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties in reasons given for selecting a particular hospital (i.e., closeness, special services available, doctor's recommendation, friend's recommendation, family member's recommendation, better equipment, or accessibility).

Ho: N stable = N declining

Ho_3: There are no significant differences in the sources of health information for populations residing in stable-patient-load counties and populations residing in declining-patient-load counties (i.e., physician, county hospital, other hospitals, county extension office, books and magazines, television, friends, pharmacists, or nurses).

Ho: N stable = N declining

Ho_4: There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties on perceptions of satisfaction with care received, perceptions of availability of health care, and

perceptions of the importance of the local rural hospital to the household.

Ho: μ stable = μ declining

Definition of Terms

Declining-patient-load counties: Those counties whose hospitals have experienced at least an 11.9 percent decline in the number of patient discharges during the three-year period, 1985 through 1987. In Oregon, these counties included Grant and Union Counties. The 11.9 percent level was established by the Oregon State Office of Health Policy to differentiate stable-patient-load hospitals from declining-patient-load hospitals.

Frontier counties: Those counties with population densities of less than six persons per square mile.

Head of household: The individual responsible for making decisions regarding health care for the household.

Medically indigent: Those persons who cannot pay for medical services.

Poor: Refers to those households whose annual incomes are less than $9,056.00 (the poverty level) for a family of three.

Prospective Payment System: A reimbursement program initiated by the federal government in 1983 which repays hospitals for services rendered to selected Medicare patients (i.e., those who are covered).

Rural areas: Those areas of the country which have open country and farms, or towns which have fewer than 2,500 residents.

Rural hospitals: Refers to those hospitals with fewer than 50 beds located outside of metropolitan areas and which provide basic levels of health

services. Some hospitals located in rural areas which have more than 50, but less than 85, beds and which are not considered referral centers, are often considered rural hospitals.

Rural households: Those households located in an identified areas such as small towns or isolated villages with populations fewer than 2,500 people.

Rural populations: Populations not living within a Standard Metropolitan Statistical area.

Stable-patient-load counties: Those counties which have experienced no more than 11.9 percent decline in patient discharges during the three-year period, 1985 through 1987. In Oregon, these counties include Baker and Wallowa Counties.

Standard Metropolitan Statistical Area (SMSA): Populations living in identified areas with at least 50,000 people and with integrated, contiguous counties, including both central city and suburban areas.

Type A hospital: A hospital which is small and remote, with fewer than 50 beds, and which is more than 30 miles distant from another acute in-patient care facility.

Uncompensated care: The provision of health care for which a hospital does not receive remuneration, such as charitable care and bad debts.

Urban population: Populations living within a SMSA.

Scope and Limitations of the Study

1. The scope of this study was limited to a list of possible independent variables as selected by the investigator. A pilot test conducted prior

to the actual collection of the data indicated that the selected variables were appropriate for inclusion in the study.

2. Since the data collection involved a telephone survey, the sample was restricted to those persons whose numbers appear in the current telephone directories of the counties selected for inclusion in this study.

3. This study is restricted to the description of existing conditions in four rural Oregon counties with respect to hospital selection and usage patterns.

4. Four geographically contiguous rural counties in eastern Oregon (Figure 1) were targeted as areas for data collection. These four counties are among 11 Oregon counties which are considered frontier counties due to their low population densities.

5. While it is recognized that there are numerous reasons for effecting individual choice of a particular hospital and for the source of health care information for a household, this study was restricted to those listed on the survey questionnaire. Respondents were provided with an "other" category on each question asked.

6. Only one person (the respondent identified by the interviewer as the one who made decisions regarding health care) was interviewed per household; therefore, one person served as spokesperson for an entire household.

Summary

The status of rural health in the United States is declining, owing to a number of economic and demographic factors summarized in this chapter. This study was an investigation of the variables related to hospital selection

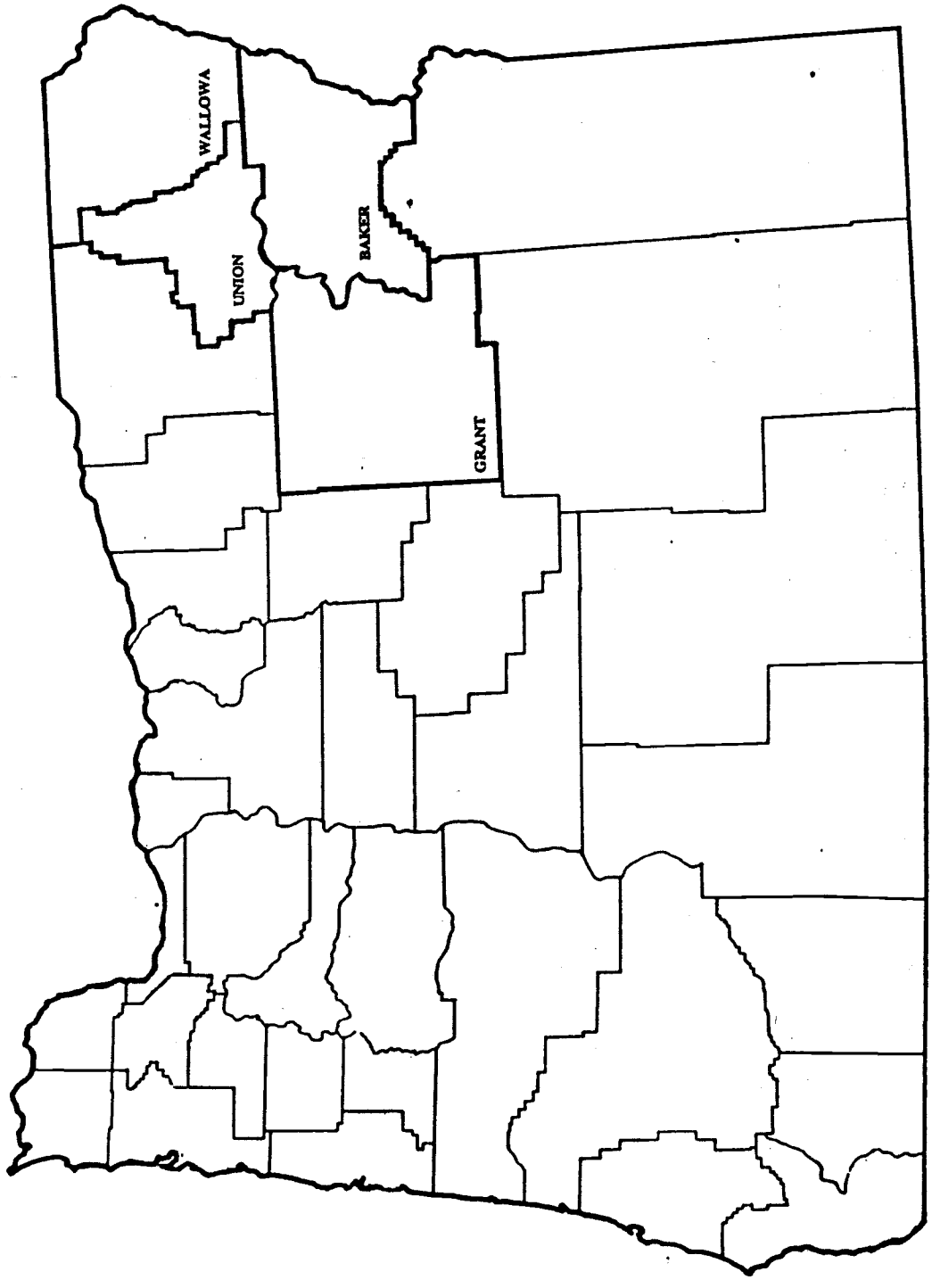

Figure 1. Oregon Counties.

by rural populations in Oregon, with the goal of identifying those factors which determine patient loads in rural hospitals. The objective of the study, subject to the stated limitations and based upon the results of a survey conducted in four eastern Oregon rural counties, was to provide information for rural health care provision planning in an effort to slow the pace at which rural populations are losing local primary health care facilities due to closure.

CHAPTER II. REVIEW OF RELATED LITERATURE

The increase in the numbers of small, rural hospitals began in the late 1940s, largely due to the enactment of the Hill-Burton Hospital Survey and Construction Act of 1946 (Hersh & Van Hook, 1989). This legislation allocated grants to small, rural cities and towns for the construction of local hospital facilities. Over the next 25 years, 10,748 projects were funded and approximately 43 percent of these projects were located in communities with fewer than 10,000 residents (Christianson & Faulkner, 1981). One constant concern about these hospital projects has been that many of them have had occupancy rates of less than 50 percent.

In the 1970s, following the earlier period of rapid growth, significant numbers of rural hospitals began to close. This trend has persisted, despite concerns regarding the cost effectiveness of such actions (Moscovice, 1989). When rural hospitals close, primary health care is denied to significantly large segments of the American population, among them are the poor and the elderly. During the period between 1980-1985, 340 hospitals closed in the United States and of this number, 214 were classified as rural community hospitals (Mullner & McNeil, 1986). In Texas, for example, local hospitals in 13 rural communities closed.

Consequently, faced with a multitude of challenges, difficulties, and financial hardships, rural hospitals have found themselves struggling for survival. A recent report from the Congress of the United States showed that of the nation's hospitals reporting monetary losses between 1984 and

1986, 83 percent were rural hospitals (Medicare unfair to rural hospitals, 1989). This is no small problem since 23 percent of the nation's one million hospital beds are in rural hospitals. Additionally almost one-half of all community hospitals in the United States are classified as rural (American Hospital Association, 1987). A recent study conducted in Montana observed that more than one-third of the state's hospitals were operating at a financial loss (Ailing hospitals may be replaced by special clinics, 1989). More to the point, of 39 rural hospitals, 33 suffered a financial loss in 1988. These closures can place an immense hardship on the elderly and poor in rural areas since in these areas local hospitals are the principal source of primary health care and these types of patients constitute the majority of the patient load (Cohodes, 1986; Sloan, Valvona, & Mullner, Wilensky, 1984).

As noted by Senator Max Baucus (Democrat, Montana), rural hospitals serve their communities in a number of ways (Baucus, 1987):

> The backbone of rural health care is the small hospital. In many towns throughout the United States, the small hospital not only is the central provider of health care, it often is the town's largest employer and purchaser as well. Moreover, these facilities are essential to the quality of life in rural communities. They make their towns better places to live and work, help attract new businesses and provide desirable communities for retirees to settle. (p. 22)

Local rural hospitals provide an assortment of benefits to the communities they serve which transcend the narrower focus of health care. The presence of a hospital in a rural community can create a favorable economic climate for its residents. One study found the average annual salary total paid to community residents by rural hospitals to be approximately $600,000.00 and that the average total local hospital expenditures were between $700,000.00 and $1,000,000.00 (Christianson & Faulkner, 1981).

Clearly, then, the presence of hospitals in smaller communities across America have far-reaching consequences for the overall viability of community life.

Rural hospitals frequently provide care for which they are not reimbursed, care which may be defined as the sum of charitable care and bad debts (Chodes, 1986; King County Health Planning Council, 1984; Sloan et al., 1984). Charitable care is the provision of hospital services to individuals for which the hospital does not expect to receive payment and bad debts are uncollectible accounts receivable. These accounts are created by individuals who are either uninsured or underinsured, by people who have the ability to pay but fail to make payments, by reductions in charges due for services deemed insufficient by the consumer, or by below-cost rate discounts given to group insurance patients. Nationally, it has been demonstrated that the proportion of uncompensated care in rural hospitals is greater than they can absorb within a financially sound framework (Cohodes, 1986; Sloan et al., 1984; Wilensky, 1984). In addition, these hospitals face the same increasing operational and health care costs that have been faced by the rest of the nation in recent decades.

Issues of Rural Health Care

Many studies use the term "rural" to describe their subjects, but definitions of rural populations differ from one source to the next. The U.S. Department of Agriculture has established seven different categories of "ruralness" for counties in the continental United States, dependent upon whether substantial total wage and proprietor incomes in the counties are farming-dependent, manufacturing-dependent, mining-dependent or dependent

on government activities, the existence of federal lands or retirement communities, or whether residents could be placed in a persistent poverty condition. This definition encompasses the majority of American counties otherwise considered "rural" and some counties fall into more than one category (Cordes, 1989).

In more practical terms, the U.S. Census Bureau defines as rural populations those persons living in open country, on farms, or in towns of fewer than 2,500 people. The American Hospital Association (AHA) defines rural as a geographic area not found in a standard metropolitan statistical area (SMSA) (American Hospital Association, 1987). The SMSA is a county or group of counties which contain at least one central city or twin-city of 50,000 or more people (Moscovice, 1989). Bridgman's (1955) definition of rural linked populations with time and distances travelled. He stated that a rural area is "any area such that the time of transport to a built-up area of urban character would exceed one-half hour, and the life of whose population is essentially linked with the working of the soil; the thirty-minute isochrone" (p. 13).

Rural America, particularly the western United States, is spacious. This, combined with regional differences, makes it uncertain that the establishment of guidelines for health care in one area will be equally suitable for another area. Therefore, one of the predicaments for analyzing the problems of rural America lies in the diversity of needs which exist within such a vast area. For example, Vermont, with about the same population as Wyoming, is considered a rural state. However, Vermont has ten times as many people per square mile as Wyoming. The issue is whether these two states experience the same problems regarding access to health care for

their residents. Although both states have experienced similar health care concerns, states in the American west have an obvious distance problem which is unlike those in other portions of the United States (Cordes, 1989). The distance dilemma is only one of the numerous difficulties identified with access to health care in western rural America which point to the wide variations which can exist within a definition of the term "rural."

Oregon Rural Hospital Classification

Defining rural hospitals offers no less a challenge than defining rural states or geographical areas, in part due to the distinctions made between "rural" hospitals and "small rural" hospitals. The Oregon Association of Hospitals (OAH) has defined small hospitals as those with fewer than 100 beds and small rural hospitals as those with fewer than 30 occupied beds (annual average) where the distance to the nearest other general acute care hospital is 10 miles or more (Oregon Association of Hospitals, 1986). The AHA (American Hospital Association, 1987), in turn, defines the range of rural hospitals from 20-bed facilities in frontier towns (fewer than six persons per square mile in the county) to 300-bed facilities in towns of 25,000 people which act as regional referral centers for surrounding counties. Most of the nation's rural hospitals are small, having fewer than 100 beds and lower occupancy rates than urban hospitals; they are responsible for one out of five inpatient services provided in community hospitals throughout the United States. The number and availability of rural hospital beds, no matter how defined, has continued to decline through the 1980s (Moscovice, 1989).

For this investigation, the definition of rural hospitals is as stated by Oregon Senate Bill 428, as introduced in 1987 and subsequently adopted, and as employed by the Oregon Department of Human Resources, Office of Health Policy (1986). Oregon's small, rural hospitals are included in three classifications: (1) Type A, fewer than 50 beds and more than 30 miles to another acute inpatient care facility; (2) Type B, fewer than 50 beds and less than 30 miles to another acute inpatient care facility;(3) Type C, more than 50 beds, but not considered a referral center (Oregon Association of Hospitals, 1988). This definition includes a time isochrone, but uses 30 miles in place of the 10-mile distance favored by the OAH (Oregon, Department of Human Resources, 1986).

Rural Poverty and Health Conditions

People living in rural areas of the United States are more likely than people living in urban areas to be without a regular source of health care, without health insurance, to be in poor health, or experience a chronic or serious illness (Robert Wood Johnson Foundation Special Report, 1987). In 1987, 37 million Americans, one-third of whom were classified as "poor" and one-fourth of whom lived in rural areas, were without health care insurance (U.S. Congress, Congressional Budget Office, 1988). Moreover, 29 million Americans under the age of 65 lived in poverty and among the 45 million non-elderly rural residents, 8.3 million lived in poverty, subsisting on average incomes of less than $11,600.00 for a family of four.

Approximately one-third of the nation's poor are rural residents although only one-fifth of the nonelderly live in rural areas. Regardless of region, there is a greater proportion of persons over 65 years of age living

in rural areas than in non-rural areas and the provision of necessary health care to this population (elderly, poor, and rural) has been a concern frequently expressed in the U.S. Congress (National Center for Health Statistics, 1987; Patton, 1989; U.S. Congress, 1988). The health status of the nation's rural populations is disturbing. In five of six major chronic health problem groups, rural persons have higher incidence rates than urban populations. Cardiovascular diseases are among the leading causes of death for both rural and urban populations. However, rural populations suffer higher death rates from hypertension, cerebrovascular diseases, motor vehicle accidents, as well as from other types accidents or adverse conditions (National Center for Health Statistics, 1987). Mortality rates among rural residents are higher in the following categories: lightning and exposure, machinery and natural disaster, firearms and falling objects, pedestrian injuries, excessive cold and boat drownings, suffocation and motor vehicle occupancy, electricity and explosion, drowning (nonboating), motorcycle accidents, falls from ladders or scaffolds, and house fires, as well as a number of other categories (Baker, O'Neill, & Karpt, 1984). Urban residents experienced higher mortality rates from syphilis, breast cancer, cirrhosis of the liver, homicide, and hypertensive heart disease than rural populations (National Center for Health Statistics, 1987).

Persons under the age of 21 residing in rural America experience a disproportionate share of health-related problems in comparison to their urban counterparts, including higher rates of visual, hearing, and speech impairments, as well as higher incidence of mental retardation, ulceritis, enteritis and colitis, epilepsy, diabetes, kidney infections, bladder infections,

and menstrual and female genital organ disorders (Norton & McManus, 1989).

Accompanying the host of health-related problems experienced by rural Americans, the prevalence of insufficient insurance coverages poses a threat to the safety and well-being of this population. Contemporary studies (Davis & Rowland 1983; Sulvetta & Swarts, 1986; Walden, Wilensky, & Kasper, 1980) have indicated that the number of uninsured Americans is increasing and that lack of insurance impairs access to care, leading to decreased use of health care services. Access to care has been a difficulty primarily for those who are poor and uninsured (Wilensky, 1983; Wilensky & Berk 1982).

Rural populations are more likely to be employed in small businesses or agricultural-related businesses which offer only limited private insurance coverage, when it is offered at all (Chollett, 1987). Rural residents are also more frequently uninsured than other Americans, and when uninsured, are more likely to be uninsured for an entire year (Farley, 1985; Wilensky & Berk, 1982; Walden, Wilensky, Kasper, 1980). In addition, among populations classified as "poor" or "near-poor," fewer people in rural areas have Medicaid coverage than people in urban areas (Wilensky & Berk, 1982).

A concern linked with poverty and unemployment in rural America is how to provide for the health needs of the growing numbers of rural homeless people. The media (television, radio, and national newspapers) have failed to highlight this population, focusing instead on the plight of the urban homeless. Recent recessions in the fields of agriculture, timber, mining, and petroleum industries, plus the growing numbers of farm foreclosures, have added to worker layoffs and a displacement of large numbers of rural workers. Layoffs and firings, along with an unstable rural economy, have

forced many rural residents to deplete their savings quickly and to move about in search of new employment opportunities. Newly unemployed rural workers also often move in with relatives temporarily. Rural homeless seek housing help from relatives at a rate of four to one when compared to the urban homeless (Patton, 1988).

The average urban homeless person differs from the average rural homeless person. Current reports state that in urban settings, the traditional homeless person is a single man or a single woman with children. Rural homeless populations, however, will include two-parent families with young children, and in most cases both parents will have held part or full-time jobs. These people make extensive use of campgrounds, abandoned dwellings, their own vehicles, or the homes of relatives while in this transition period from homeowner or renter to homeless (Patton, 1988).

The health problems faced among this group of rural Americans have not diminished in number and do not appear to be any different from those experienced by the urban homeless. The dilemma of caring for the health needs of the rural homeless has the potential of placing added economic strain on an already financially burdened rural health care system. It would appear that health care issues relative to this group in the rural population will continue posing serious problems in the nation's rural communities as long as uncertainties facing the rural economies and rural homelessness persist. At present, it is uncertain to what extent the homeless situation will effect the viability of the rural hospital in America, but be assured, America's rural hospitals will be affected.

In summary, the problems of inadequate insurance coverage, transportation problems, insufficient financial means, limited understanding of the

capabilities of medical programs, and the growing plight of the rural homeless serve to complicate life in rural America. Rural America is already facing a stiff challenge due to existing health conditions which are below average national standards (Patton, 1988; Roemer, 1976).

Rural Hospitals and Rural Health Care

The heterogeneity of rural hospitals makes it difficult to reach broad conclusions that can be generalized for all rural hospitals. Moscovice (1989) noted that most studies have been descriptive in nature, with little in the way of comprehensive research examining the efficiency of rural hospitals throughout the country. Research has tended to be regionally or geographically specific, focusing largely upon local questions and concerns associated with health care issues (Hersch & Van Hook, 1989). Recommendations for rural research agendas currently include region and geographic specific studies, which will involve the efficiency of the rural hospital within a given area or region in order to better understand local problems, and questions and concerns associated with rural health care issues (Hersch & Van Hook, 1989).

Studies conducted in Florida and Michigan in 1987 have attempted to delineate various general issues involving care in rural hospitals by focusing on the economic viability of rural hospitals (Moscovice, 1989). The state of Florida was able to document that half of Florida's rural hospitals were operating under significant monetary burdens. Typical rural hospitals in Florida were portrayed as suffering from reduced occupancy rates, decreased income, increasing problems related to liability insurance, high levels of debt, and the loss of patients to urban facilities. These financial

burdens have affected the availability of health services in rural hospitals. Only a little more than 50 percent of the rural Florida hospitals were able to staff emergency rooms with physicians on a 24-hour per day basis and only 38 percent of the facilities supplied obstetric services (Moscovice, 1989).

A study of rural hospitals in western Michigan predicted that the financial status of rural hospitals would significantly decline under the federal Prospective Payment System (PPS) for the period ending in 1991 (Ernst and Whinney, 1987). It was suggested that insufficient PPS reimbursement, rather than the inefficiencies of local hospitals, was the principal reason for the anticipated fiscal problems of rural hospitals in western Michigan. The report concluded that an alarmingly high number of these hospitals, faced with prolonged financial burdens and decreasing patient loads, would be forced to close their doors.

Since its origin, the federal PPS has been a source of controversy. The PPS is a program designed to refund revenues to hospitals who have provided care given to Medicare patients. As soon as the program was initiated, a number of rural hospital administrators began to lobby Congress on the perceived inadequacies of the program. Their principal complaints were the lack of impartiality in Medicare distinctions between different hospital classifications for payment purposes and the fact that rural hospitals would receive lower payments than urban hospitals (Moscovice, 1989).

Moscovice (1989) has categorized several features of the PPS remuneration plan which rural hospital administrators claim could adversely affect their economic viability. These problems may be summarized as follows:

1) Urban/rural payment differentials. Different reimbursement rates apply to hospitals located in urban and rural areas of the country, based on the theory that average rural hospital costs were lower than urban hospitals in the selected PPS baseline period. For 1985, this resulted in standardized PPS payment amounts per case which were 25 percent (about $600.00) lower for rural hospitals than for urban hospitals. Discussions of the equity of the payment differential have invariably focused on differences in hospital efficiency, case mix/severity, and service intensity.

2) Area wage indexing. PPS payment rates are adjusted for different area wage levels. Complaints have stated that the indexes originally developed by the Department of Health and Human Services did not reflect differences in the mix of part-time and full-time employees, thereby understating actual rural wage levels (Tauke, 1985). This system is said to encompass boundary problems of rural hospitals located near urban markets which must compete with urban providers for staff, bringing into question the fairness of including wage indexing as a basis for determination of PPS payments. Recently, the application of a gross wage index has been instituted to account for differences in the mix of full- and part-time employees.

3) Outlier payments. Under PPS, hospitals receive additional reimbursement for cases that have either unusually long lengths of stay or extraordinarily high costs compared to the majority of patients in a particular Diagnosis Related Group (DRG). There

have been general complaints that the outlier payments do not cover the costs of care for unusually expensive patients. In addition, rural hospitals have claimed that their admissions volume is insufficient to make up their outlier losses. The federal program recently responded by creating separate outlier contributions for urban and rural hospitals.

4) Sole community hospitals. PPS applies special payment methods for hospitals that are the sole source of available inpatient hospital services in a geographic area because of factors such as isolated location, weather or travel conditions, or an absence of alternative health care services. If these community hospitals experience a decrease of more than 5 percent in their number of admissions or a significant increase in operating costs due to the addition of new inpatient facilities or services, they qualify for additional PPS payment supplements.

5) Regional referral centers. Larger rural hospitals that offer a range of specialized services and attract patient referrals from a wide geographic area qualify for the higher urban PPS rates. The initial complaints were that the criteria for referral center classification were restrictive, including only 167 designated referral centers as of May, 1986. In response, these criteria were recently revised to reflect less stringent standards for hospitals applying for this designation.

Moscovice concluded that at this early date it is not possible to obtain accurate research findings regarding the long-term effects of PPS on the economic viability of rural hospitals.

United States Senators Lloyd Bentsen (Democrat, Texas) and Robert Dole (Republican, Kansas) have been joined by at least 56 others in the Senate in sponsoring a bill which would require, by 1994, a single national rate of reimbursement to all hospitals regardless of classification (Larkin, 1989). David Pryor (Democrat, Arkansas) and Max Baucus (Democrat, Montana) are among the co-sponsors who are speaking out for reform of PPS. The result of the proposed legislation, if enacted upon favorably, would provide for a more balanced disbursement of funds, funds which some suggest might be too late in coming for some financially troubled rural hospitals. Sponsors are optimistic that the bill will pass by the end of 1989.

The Prospective Payment Assessment Commission (ProPAC) was established in 1983 in order to advise the Secretary of Health and Human Services on a number of matters to include health care delivery and cost systems pertaining to Medicare and the remuneration procedures involved with hospital usage. Senator Pryor (Democrat, Arkansas) has charged ProPAC with being, "unfair and unacceptable" (Medicare unfair to rural hospitals, 1989) in that the makeup of the commission is weighted to favor the interests of urban hospitals. As more rural hospitals are forced to close, Pryor has stated that it is necessary to have recommendations from those having direct experience with such closure problems in order to help correct the situation. Currently, there is only one delegate representing rural America on the 17-member commission.

Along with concerns revolving around the inadequacies of the PPS, Moscovice (1989) noted that in 1987 the U.S. Department of Health and Human Services recognized several additional factors which have endangered

the financial viability of rural hospitals. Included among these factors, in addition to the effect of the economic decline and the demographic changes in rural America previously discussed, were (a) competition from urban providers in areas adjacent to saturated urban markets, (b) the tightening of federal certification and review policies, posing difficulties for rural hospitals without sufficient demand to support these standards, and (c) increasing needs for capital refinance in face of restricted access to capital markets. Between these two factors, the changing economic/demographic structure of rural America and the effect of the federal PPS on the continued economic viability of rural hospitals, it seems clear that rural health care in the United States is approaching a crisis.

Rural Hospitals in Oregon

Hospitals serve a major role in community affairs in rural Oregon. They provide the communities and areas they serve with necessary health care and they add to their economic stability. As with other rural hospitals throughout the nation, Oregon's rural hospitals are finding it increasingly difficult to operate at existing levels of capital resources.

The inadequacy of capital resources, in combination with a lack of specialized services and problems arising from uncompensated care and decreased use, has placed several of Oregon's rural hospitals in danger of closure. Since 1986, five hospitals in this category have closed, including those in Toledo (1986), Pendleton (1986), Central Point (1987), Wheeler (1989), and Nyssa (1989) (Franck-Weiby, 1989).

The state of Oregon has 36 rural hospitals which offer a wide variety of services. Nearly all of Oregon's rural hospitals are able to provide

nine basic hospital services, including inpatient surgery, radiology/x-ray, emergency services, clinical laboratory services, respiratory therapy, pharmacy, intensive care units or critical care units, physical therapy, and obstetrics, and all of Oregon's rural hospitals are able to provide inpatient surgery, radiology/x-ray, and emergency services. A minority of this number are also able to offer other services normally available in full-staffed urban locations, e.g., ultrasound, birthing, occupational therapy, speech therapy, chemotherapy, alcohol/chemical dependency, CT scanner, home health, hospice, ambulatory surgery, or outpatient facilities (Oregon, Department of Human Resources, 1986). Inpatient surgery is considered routine in rural hospitals, but the cost of equipment, the maintenance of surgical staffs with trained assistants, and the availability of post-operative facilities have increasingly become issues of concern (Rosenblatt & Moscovice, 1985). Radiology/x-ray technology is necessary in diagnosing illness and injury primarily where emergency services are needed, and emergency room care is an apparent interest to hospital administrators insofar as community judgment of an entire hospital's worth is based on the quality of the emergency services rendered (Oregon, Department of Human Resource, 1986).

Oregon has experienced problems connected with the attraction and retention of physicians in rural hospitals, and the Oregon Association of Hospitals has identified this concern as the primary problem regarding provision of health care to rural Oregonians (Oregon Association of Hospitals, 1986). With the retirement of older, established physicians, many rural areas suddenly become aware that they cannot easily attract replacements since fewer physicians are willing to serve as "country doctors" in rural settings. One response has been the National Health Service Corps (NHSC), a

federally-funded program created in 1970, which has placed physicians in rural areas of greatest need. This need has been established as a ratio of 1 physician per 3,500 people in a given rural area, a ratio which is high enough to eliminate many areas which fail to meet these population standards (*Federal Register*, 1980). The final outcome has been to place physicians in areas which experience the greatest need as determined by this physician to population ratio.

Summary

This chapter has presented an overview of the literature regarding the historical development of the American rural hospital and a summary of the problems associated with the operation of rural hospitals. Along with the typology of rural hospitals, the concept of "rural" was discussed and defined. Finally, definitions particular to the state of Oregon regarding the terms "rural" and "rural hospitals" were considered.

Rural populations were described with respect to socioeconomic status, health status, insurance coverage (or lack thereof), and the structure of the federal Prospective Payment System and its effect upon rural hospitals. In addition, Oregon's rural hospital classification system was discussed, as well as descriptions of the state's Type A, Type B, and Type C rural hospitals and the types of services they provide.

CHAPTER III. METHODS AND PROCEDURES

This study examined selected variables to determine if significant differences exist between the responses of residents of four rural eastern Oregon counties, two of which had stable-patient-load hospitals and two which had declining-patient-load hospitals. Respondents were asked if medical treatment had been provided to members of their households in their own county hospital or in any other hospital within the past two years. Eleven independent variables (closeness, reputation, past experience, cost of care, quality of care, special services available, doctor's recommendation, friend's recommendation, family member's recommendation, better equipment, and accessibility) were examined as possible reasons for selecting a particular hospital.

Nine independent variables (physician, county hospital, other hospitals, county extension office, books and magazines, television, friends, pharmacists, and nurses) are examined to determine which factors were the major sources of health information for people residing in these rural Oregon counties.

Data on three independent variables (perceived satisfaction with care received, perceived availability of health care, and perceived importance of the local rural hospital to the household) were collected and comparisons were made between stable-patient-load counties and declining-patient-load counties.

Hospitals Selected for Study

Survey questions were answered by residents of Baker, Grant, Union, and Wallowa Counties. These counties' rural health care needs are served, respectively, by St. Elizabeth Hospital, Blue Mountain Hospital, Grande Ronde Hospital, and Wallowa Memorial Hospital. Although Grande Ronde hospital was classified as a Type C hospital prior to 1987, in 1989 all four hospitals are considered Type A. The classification change for Grande Ronde Hospital was due to the reduction of the number of licensed beds from 84 in 1985 to 49 in 1987.

Overall staffing at the four hospitals changed little during the three-year period, 1985 to 1987. The number of physicians employed by the various hospitals differed during fiscal years (FY) 1985, 1986, and 1987. For FY 1985 through 1987, St. Elizabeth Hospital in Baker County reported the number of physicians actively employed to be, respectively, 17, 12, and 11. The number of physicians actively employed in the remaining hospitals for the same time period (FY 1985-1987) were for each year, respectively: Blue Mountain Hospital in Grant County, 5, 4, and 5; Grande Ronde Hospital in Union County, 42, 41, and 36; and Wallowa Memorial Hospital in Wallowa County, 5, 4, and 4 (Oregon, Department of Human Services, 1985-1987).

Among the most noteworthy changes in personnel numbers occurred with respect to registered nurses employed by St. Elizabeth Hospital, declining from 31 in 1986 to 19 in 1987. In addition, pharmacists employed by Grande Ronde Hospital declined from 21 in 1986 to 3 in 1987. Overall personnel numbers remained relatively constant for each of the hospitals in the study during FY 1986-1987. Blue Mountain Hospital employed 74 people in

1986 and 62 in 1987, Grande Ronde's employed 288 in 1986 and 297 in 1987; St. Elizabeth employed 147 in 1986 and 136 in 1987; and Wallowa Memorial employed 71 in 1986 and 70 in 1987 (Oregon, Department of Human Services, 1985-1987).

For this inquiry the four counties selected for study were appropriate insofar as two of the hospitals, St. Elizabeth and Wallowa Memorial, had stable patient loads during FY 1985 through 1987, while the two others, Blue Mountain and Grande Ronde, experienced a decline in use during the same time period. Stable-patient-load hospitals are those which experienced no more than an 11.9 percent decline in discharges over the three-year period, the threshold at which the Oregon Office of Health Policy considers hospital utilization to be stable (Franck-Weiby, 1989). Thus, a hospital could experience an 11 percent decline in patient load for fiscal years 1985 through 1987 and still be considered stable, which was the case for Wallowa Memorial hospital in Enterprise, Oregon. Declining-patient-load hospitals were those which exceeded the 11.9 percent decline threshold. In addition, the hospitals under consideration are located in geographically contiguous counties in eastern Oregon. All of Oregon's eight Type A hospitals are located in eastern Oregon.

The precise percentages of patient-load increase or decrease for each of the hospitals in the study for 1985 through 1987 were: (1) Blue Mountain Hospital, 21 percent decline (689 discharges in 1985, 543 discharges in 1987); (2) Grande Ronde Hospital, 30 percent decline (3,116 discharges in 1985, 2,170 discharges in 1987); (3) St. Elizabeth Hospital, 10 percent increase (980 discharges in 1985, 1,091 discharges in 1987); and (4) Wallowa Memorial Hospital, 11 percent decline (724 discharges in 1985, 639 dis-

charges in 1987) (Figure 2). Therefore, Blue Mountain and Grande Ronde Hospitals are categorized as declining-patient-load hospitals, while St. Elizabeth and Wallowa Memorial Hospitals are categorized as stable-patient-load hospitals (Franck-Weiby, 1989).

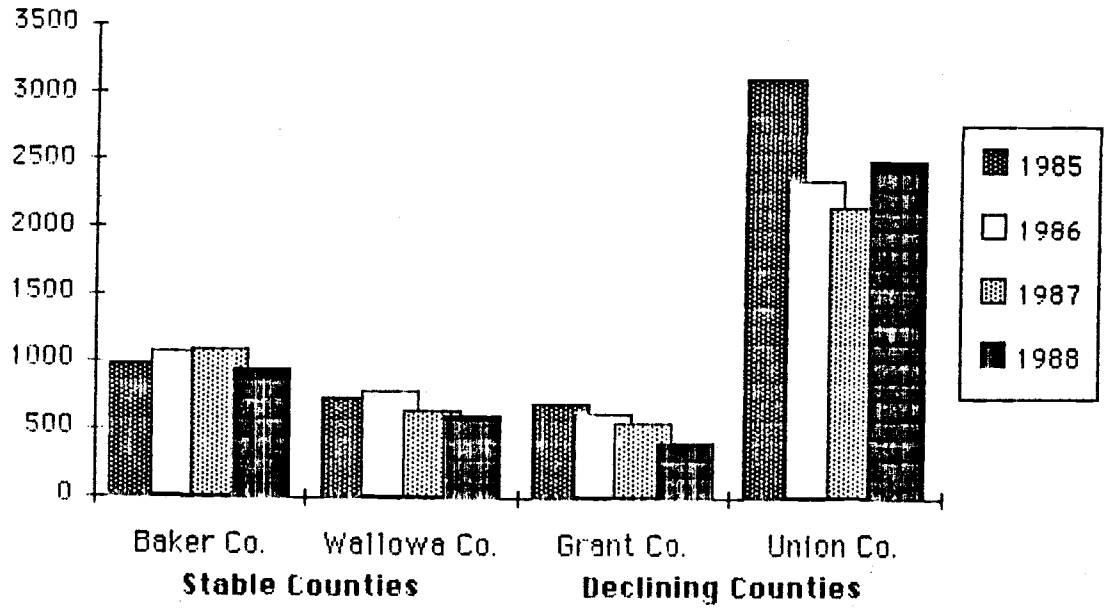

Figure 2. Total Discharges, 1985-1988.

Subject

The respondents interviewed in this study were among current residents of Baker, Grant, Union, and Wallowa Counties. Each respondent, either male or female, could be classified as the head of household. The head of household is defined as the person who makes decisions for household members regarding their health care needs. Interviews were terminated when it was disclosed that no one in the household had received care from a hospital within the past two years and those interviews in which at least one

person in the household had received treatment from a hospital within the previous two-year period were included in the data collected for this study.

Respondents' telephone numbers were randomly selected from among those listed in the current telephone directories for Baker, Grant, Union or Wallowa Counties. Approximately 302 households were surveyed. It is estimated that over 95 percent of the people living in rural Oregon have telephones (Oregon State University, Survey Research Center, 1989).

The number of respondents differed from county to county proportionate to the population of each county, given a total four-county population of 55,538 (U.S. Department of Commerce, 1982). With respect to this ratio, the number of respondents from each of the counties was as follows:

1) Union County, 43 percent of the total population, 131 respondents;
2) Baker County, 29 percent of the total population, 84 respondents;
3) Grant County, 15 percent of the total population, 48 respondents; and
4) Wallowa County, 13 percent of the total population, 39 respondents.

The percentages total 100 percent and the numerical totals equal 302.

The respondent (head of household) provided information pertaining to all members of the household who had received treatment from a hospital within the previous two years. Since in any given household the total number of people receiving care from a hospital could exceed one, the number of responses to hypotheses Ho_1 and Ho_2 exceeded 302 (the number of respondents). The respondent also provided answers for an entire household on questions pertaining to hypothesis Ho_3 (there are no significant differences in the sources of health information for populations residing in stable-

patient-load counties and for populations residing in declining-patient-load counties). Therefore, the total number of responses to hypothesis Ho_3 equalled 302. Response numbers varied for Ho_4 (there are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties on perceptions of satisfaction with care received, perceptions of availability of health care, and perceptions of the importance of the local rural hospital to the household), with larger numbers obtained for one variable and precisely 302 responses for each of the two others. The reason for these differences is that in response to some questions the respondent answered for an entire household and in response to other questions, multiple answers were given, depending on the number of people in the household who had received treatment from a hospital.

Instrument

The instrument developed for use in this study, the Rural Oregon Hospital Selection Survey (ROHSS) (Appendix A), was used as an interview guide for data collection. The instrument was field-tested prior to the actual survey by random selection of 30 subjects (10 percent of the total sample population) from the current telephone directories of the four counties included in the study. Data collected from the field-test was not included among the final data collected in the study. Minor revisions were made to the instrument, based on information gathered during the field-test. A final instrument, complete with revisions, was printed and data collection proceeded.

The professional market and opinion research firm of Bardsley and Neidhart, Inc., Portland, Oregon, was employed to conduct the interviews in order to provide the greatest possible degree of accuracy in the collection of data. This reputable organization includes employees who are skilled and experienced in interview procedures, include callback techniques to respondents whom the surveyor was unable to reach in an initial telephone call. The use of this organization was recommended by the Survey Research Center at Oregon State University, Corvallis, OR.

Independent Variables

The ROHSS was used to gather data for determination of the significance of the 24 independent variables under consideration. The ROHSS consists of 22 items, many of which have multiple sections. The recorded information transferred from the survey forms to an IBM computer file for subsequent data analysis.

Dependent Variable

The dependent variable in the study was the hospital selected for care by the subject. For the purposes of this study, hospital selection was determined by whether or not the subjects chose a rural hospital in which to receive care in their county of residence, or whether they chose a hospital in another jurisdiction.

Analysis of Data

The principal purposes of this study were to determine why the patient loads were decreasing and the extent to which rural residents bypassed

local hospitals in order to seek care in hospitals located outside their county of residence and to identify those variables which appeared to be the most influential in determining hospital selection and which constituted major sources of health information for this population. In addition, types of insurance coverages, the amounts insurance paid for care received, satisfaction with treatment received, reasons for going outside the local county for care, the availability of health care to the household, and the importance of the local hospital to the household were also identified, discussed, and described. Data so provided were analyzed with assistance from a statistical consultant at the Oregon State University Computer Center and processed on an IBM PC computer using the SPSS/PC+ V2.0 program.

All of the independent variables listed in hypotheses Ho_1, Ho_2, and Ho_3 were measured by a single item requiring a yes or no response. Data collected pertaining to hypotheses Ho_1, Ho_2, and Ho_3 were nominal and chi-square statistics, an appropriate statistical tool for the analysis of nominal data, were used to contrast the stable-patient-load counties (two) with the declining-patient-load counties (two). An alpha level of .05 was the basis for the determination of significance. For each yes response in hypothesis Ho_2, the respondent was asked a question allowing measurement of the intensity of that response. Degrees of intensity for the yes responses were ordered from extremely important (4) to not important (1). Results of the tabulation were used to generate interval data and mean scores, which were then calculated for each item in hypothesis Ho_2 for which yes responses were given. Those variables with the largest calculated means were considered to be those which had the greatest influence on hospital selection for the population. Data pertaining to hypothesis Ho_4 were gathered with the

respondent allowed to choose from an assortment of possible alternatives. Interval data were collected for three variables in hypothesis Ho_4 and the z statistic was used to test for significant differences between mean scores from stable-patient-load counties and declining-patient-load counties. An alpha level of .05 served as the basis for determining significance.

On each of the questions in the survey, the respondent was given the option of selecting "other," allowing for additions to the original list which may not have been among the alternatives provided in the questions in the instrument.

Summary

This chapter has described the materials and methods used in this study. Discussion related to the participants in the study, the hospitals identified as stable- and declining-patient-load, the survey procedures, the instrument developed used in this study by the researcher, the independent and dependent variables, the methods of data collection, significance levels, and the statistical procedures used to analyze the data.

CHAPTER IV. RESULTS AND DISCUSSION

Responses from randomly selected residents of each of four rural, eastern Oregon counties were compared to determine relationships between selected variables and hospital selection for two stable-patient-load hospitals and two declining-patient-load hospitals, each in one of the four selected counties. Hospital usage patterns and health information sources for each of the households represented in this survey were also reviewed.

Description of the Respondents

The respondents in this study were individuals randomly selected from telephone directories who have lived continuously during the past two years in either of Baker, Grant, Union, or Wallowa Counties in eastern Oregon. A total of 302 heads of household (83 males and 219 females) were identified as respondents based on their primary involvement in hospital selection for household members (Table 1). These respondents were asked for information relative to hospital selection during telephone interviews conducted during June 1989. Of the 302 respondents who answered and completed the survey, 84 resided in Baker County, 48 resided in Grant County, 131 resided in Union County, and 39 resided in Wallowa County. Respondents from stable-patient-load counties (Baker and Wallowa) accounted for 123 (40.7 percent) of the total number and those from declining-patient-load counties (Grant and Union) accounted for 179 (59.3 percent) of the total number. Respondents answered for their entire household. Of the

Table 1. Distribution of Respondents by Demographic Variables.

Variable	Number (Percent) Stable PL Counties (n=123)		Number (Percent) Declining PL Counties (n=179)		Total	
	n	%	n	%	n	%
Sex:						
Male	34	(27.6)	49	(27.4)	83	(27.5)
Female	89	(72.4)	130	(72.6)	219	(72.5)
Total	123	(100.0)	179	(100.0)	302	(100.0)
Age Groupings:						
18 to 29 years	11	(8.9)	40	(22.3)	51	(16.9)
30 to 44 years	35	(28.5)	60	(33.5)	95	(31.4)
45 to 59 years	26	(21.1)	35	(19.6)	61	(20.2)
60 & over	51	(41.5)	44	(24.6)	95	(31.5)
Total	123	(100.0)	179	(100.0)	302	(100.0)
Education Level:						
Grade 6 or less	1	(1.0)	2	(1.0)	3	(1.0)
Grade 8 or less	6	(5.0)	4	(2.4)	10	(3.5)
Grade 11 or less	10	(8.8)	13	(7.6)	23	(8.1)
High School Graduate	41	(36.0)	56	(32.9)	97	(34.2)
GED	1	(1.0)	5	(2.9)	6	(2.1)
Some College	28	(24.6)	52	(30.6)	80	(28.2)
Trade/Tech School	9	(7.9)	3	(1.8)	12	(4.2)
Trade/Tech Sch Grad	2	(1.8)	6	(3.5)	8	(2.8)
College Grad	16	(14.0)	29	(17.1)	45	(15.8)
Total	114	(100.0)	170	(100.0)	284	(100.0)
Income level of Household:						
Less than $10,000	27	(23.7)	29	(16.7)	56	(19.4)
$10,000. to $19,999	39	(34.2)	53	(30.5)	92	(31.9)
$20,000. to $40,000	39	(34.2)	66	(37.9)	105	(36.5)
More than $40,000	9	(7.9)	26	(14.9)	35	(12.2)
Total	114	(100.0)	174	(100.0)	288	(100.0)

302 respondents, 207 (68.5 percent) reported they had themselves been hospitalized recently.

The ages of the respondents ranged from 18 to 90 and the majority (251 respondents, or 83.1 percent) were more than 30 years of age. In the stable-patient-load counties, 34 of the respondents were male (27.6 percent) and 89 were female (72.4 percent). Respondents from the declining-patient-load counties were represented by 49 males (27.4 percent) and 130 females (72.6 percent).

The highest educational levels achieved among the respondents were nearly equally divided between those with high school or less education and those with some degree of postsecondary education. In the stable-patient-load counties, 55 (of 114 or 48.2 percent) respondents had educational levels ranging from some college to college graduate. In the declining-patient-load counties, 90 (of 170 or 52.9 percent) had achieved a comparable education level (Table 1).

Income levels of the households surveyed were as follows. In the stable-patient-load counties, 39 (of 114 or 34.2 percent) of the households reported total income between $10,000.00 and $19,999.00 and 39 (34.2 percent) of the households reported total income between $20,000.00 and $40,000.00. In the declining-patient-load counties, 53 (of 174 or 30.5 percent) of the households reported total income between $10,000.00 and $19,999.00 and 66 (37.9 percent) of the households reported total income between $20,000.00 and $40,000.00 (Table 1).

Specific questions pertained to hospitalized members of the household; therefore, data were gathered which related to each household member hospitalized within the previous two years. Respondents reported on a total of

843 household members. Members of the households surveyed comprised included 425 (50.4 percent) males and 418 (49.6 percent) females. Of the total of 843, 449 (53.3 percent) had been hospitalized within the previous two years and thus became the subjects of this study . Information relative to hospital choice was gathered on these 449 subjects, 363 of whom were treated in their own county hospitals.

Findings Related to Major Hypotheses

Hypothesis One

Ho_1 There are no significant differences between stable-patient-load counties and declining-patient-load counties in the number of patients who seek treatment in their local county hospital and the number who opt for care in hospitals outside their home county (Ho: N stable = N declining).

Results indicated that there were 135 household members (73.4 percent) who sought care in their local county hospital in stable-patient-load counties, while 49 household members (26.6 percent) chose to go outside their county of residence for hospital care. In the declining-patient-load counties, 228 household members (86 percent) sought care in their county hospital, while 37 household members (14 percent) chose care in another hospital.

A significant chi-square value of 10.5 with one degree of freedom resulted in $p = .001$, indicating that a significant difference existed in the number of patients who sought treatment in their own county hospital and the number who sought care from hospitals outside their home county. The null

hypothesis was rejected and it is concluded that subjects in the declining-patient-load counties sought care more often than did the subjects who reside in stable-patient-load counties (Table 2).

Table 2. Chi-square Comparison of Overall Sample According to Two Characteristics (alpha level = .05).

Characteristic	Stable P-Load Counties (n=184)	Declining P-Load Counties (n=265)	
Number who sought care in their county hospital	135 (73.4%)	228 (86.0%)	
Number who sought care in another hospital	49 (26.6%)	37 (14.0%)	p = .001*

*Significant level of probability

Hypothesis Two

Ho_2 There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties in reasons given for selecting a particular hospital (Ho: N stable = N declining).

Results indicated that for the 11 variables considered, significant differences existed between the two types of counties for four of the variables: (1) cost of care (chi-square 7.0, p = .008), reject the null hypothesis; (2) special services available (chi-square 5.2, p = .02), reject the null hypothesis; (3) doctor's recommendation (chi-square 8.3, p = .004), reject the null hypothesis; and (4) better equipment (chi-square 5.1, p = .02), reject the null hypothesis. In each of these variables, the stable-patient-load county residents named these variables as factors in hospital selection

significantly more than did the residents of declining-patient-load counties (Table 3).

Table 3. Chi-square Comparison of Stable PL Counties and Declining PL Counties Regarding Factors Relating to Hospital Selection and Age (alpha level = .05).

Factor	Stable PL Counties (Percent) n=123	Declining PL Counties (Percent) n=179	PROB
closeness	83.7	83.8	1.0
reputation	39.1	35.1	.4
past experience	40.8	42.3	.8
cost of care	18.5	9.4	.008*
quality of care	46.7	37.7	.07
special services available	37.0	26.4	.02*
doctor's recommendation	51.1	37.0	.004*
friend's recommendation	13.0	10.9	.6
family member's recommendation	15.8	13.2	.5
better equipment	28.8	19.2	.02*
accessibility	76.1	80.0	.4

*Significant level of probability

The primary reasons given for the selection of a hospital were, in stable-patient-load counties: (1) closeness (154 responses, 83.7 percent), (2) accessibility (140 responses, 76.1 percent), and (3) doctor's recommendation (94 responses, 51.1 percent). In the declining-patient-load counties, the primary reasons listed for the selection of a hospital were: (1) closeness (222 responses, 83.8 percent), (2) accessibility (212 responses, 80.0

percent), and (3) past experience (112 responses, 42.3 percent) (Tables 4 and 5). In addition, the variables the respondents reported as being factors in hospital selection were rated from 4 to 1 in their order of importance, ranging from (4), very important, to (1) not important. The results of computation of the mean scores for each of the variables indicated that stable-patient-load county respondents rated accessibility, closeness, and better equipment, in that order, as the most important factors of choice. In the declining-patient-load counties, accessibility, better equipment, and closeness were rated, that order, as the most important factors of choice.

Responses of the 302 respondents were subject to various demographic analyses. When age was controlled for and the variables pertaining to hospital selection were analyzed, respondents under the age of 45 years listed the following variables as factors in hospital selection significantly more often than did those more than 45 years of age: (1) closeness ($p = .05$), (2) friend's recommendation ($p = .02$), and (3) accessibility ($p = .02$). In each instance, those under the age of 45 years indicated these variables were important factors in hospital selection significantly more often than did those more than 45 years of age. Those variables which respondents more than 45 years of age gave as factors in hospital selection significantly often more than did those under the age of 45 years were: (1) reputation ($p = .01$), (2) doctor's recommendation ($p = .0001$), and (3) better equipment ($p = .04$) (Table 6).

Gender was compared with the hospital selection variables and doctor's recommendation ($p = .007$), resulting in the indication of a significant difference. Female respondents listed doctor's recommendation as a factor in hospital selection significantly more often than did male respondents

Table 4. Chi-square Comparison of Stable PL Counties and Declining PL Counties Regarding Factors Relating to Hospital Selection (alpha level = .05).

Characteristic	Percent Stable P-Load (n=184)	Percent Declining P-Load (n=265)	PROB
	%	%	
closeness	83.7	83.8	1.0
reputation	39.1	35.1	.4
past experience	40.8	42.3	.8
cost of care	18.5	9.4	.008*
quality of care	46.7	37.7	.07
special services available	37.0	26.4	.02*
doctor's recommendation	51.1	37.0	.004*
friend's recommendation	13.0	10.9	.6
family member's recommendation	15.8	13.2	.5
better equipment	28.8	19.2	.02*
accessibility	76.1	80.0	.4

*Significant level of probability.

NOTE: 51 people (28%) in stable PL counties and 108 people (41 %) in declining PL counties voluntarily reported that their choice of the county hospital was due to the sole fact that it was the only facility available to them.

Table 5. Chi-square Comparison of Factors Relating to Hospital Selection for the Entire Number of Household Residents Who Were Hospitalized (n=449); Comparison of Stable PL and Declining PL Counties (alpha level =.05).

Factor	Stable PL Counties (n=184)		Declining PL Counties (n=265)		PROB
	yes	no	yes	no	
closeness	154	30	222	43	1.0
reputation	72	112	93	172	.4
past experience	75	109	112	153	.8
cost of care	34	150	25	240	.008*
quality of care	86	98	100	165	.07
special services available	68	116	70	195	.02*
doctor's recommendation	94	90	98	167	.004*
friend's recommendation	24	160	29	236	.6
family member's recommendation	29	155	35	230	.5
better equipment	53	131	51	214	.02*
accessibility	140	44	212	53	.4

*Significant level of probability.

Table 6. Chi-square Comparison of Hospital Selection Variables and Age, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	< 45 Years yes	< 45 Years no	≥ 45 Years yes	≥ 45 Years no	Prob
Closeness	126	20	12	135	.05*
Reputation	40	106	65	91	.009*
Past Experience	58	88	64	92	.8
Cost	17	129	19	137	.9
Quality of Care	50	96	68	88	.1
Special Services Available	37	109	52	104	.1
Doctor's Recommendation	48	98	86	70	.0001*
Friend's Recommendation	23	123	11	145	.02*
Family Member's Recommendation	20	126	19	137	.7
Better Equipment	26	120	43	113	.04*
Accessibility	120	26	111	45	.02*

*Significant level of probability

(Table 7). Similarly, when household income level was compared with the hospital selection variables and doctor's recommendation (p = .02), a significant difference resulted. Those respondents whose annual household income was less than $19,999.00 listed doctor's recommendation for hospital selection as significantly more often than did those respondents whose annual household income was greater than $20,000.00 (Table 8). No significant differences were found when education level and the hospital selection variables were compared (Table 9).

Table 7. Chi-square Comparison of Hospital Selection Variables and Gender, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	Males		Females		Prob
	yes	no	yes	no	
Closeness	70	13	177	42	.6
Reputation	24	59	81	138	.2
Past Experience	26	57	96	123	.1
Cost	8	75	28	191	.6
Quality of Care	28	55	90	129	.3
Special Services Available	21	62	68	151	.4
Doctor's Recommendation	26	57	108	111	.007*
Friend's Recommendation	10	73	24	195	.9
Family Member's Recommendation	10	73	29	190	.9
Better Equipment	17	66	52	167	.7
Accessibility	63	20	168	51	1.0

*Significant level of probability.

Table 8. Chi-square Comparison of Hospital Selection Variables and Income of Household, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	≤ $19,999 yes	≤ $19,999 no	≥ $20,000 yes	≥ $20,000 no	Prob
Closeness	126	22	114	26	.4
Reputation	52	96	49	91	1.0
Past Experience	59	89	60	80	.6
Cost	20	128	15	125	.5
Quality of Care	56	92	57	83	.6
Special Services Available	47	101	40	100	.5
Doctor's Recommendation	75	73	52	88	.02*
Friend's Recommendation	19	129	14	126	.4
Family Member's Recommendation	21	127	18	122	.7
Better Equipment	32	116	32	108	.8
Accessibility	114	34	108	32	1.0

*Significant level of probability.

Table 9. Chi-square Comparison of Hospital Selection Variables and Education, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	HS or Less		Some College		Prob
	yes	no	yes	no	
Closeness	112	27	126	27	.7
Reputation	53	86	50	103	.3
Past Experience	54	85	66	87	.5
Cost	18	121	17	136	.6
Quality of Care	61	78	53	100	.1
Special Services Available	45	94	40	113	.2
Doctor's Recommendation	67	72	62	91	.2
Friend's Recommendation	19	120	14	139	.2
Family Member's Recommendation	19	120	19	134	.8
Better Equipment	33	106	33	120	.7
Accessibility	99	40	123	30	.1

Hypothesis Three

Ho_3 There are no significant differences in the sources of health information for populations residing in stable-patient-load counties and for populations residing in declining-patient-load counties (Ho: N stable = N declining).

Results indicated that of nine possible sources of health information, significant differences existed between the two types of counties for (1) other hospitals ($p = .0003$) and (2) the county extension office ($p = .02$). Residents of stable-patient-load counties were more likely to obtain health

information from these two sources than were residents of the declining-patient-load counties (Table 10).

Table 10. Chi-square Comparison of Sources of Health Information for the Household in Stable PL and Declining PL Counties (alpha level = .05).

Characteristic	Number Stable P-Load (n=123)	Number Declining P-Load (n=179)	PROB
	n	n	
own physician	108 87.8%	153 85.5%	.7
your county hospital	83 67.5%	117 65.4%	.8
other hospitals	58 47.2%	47 26.3%	.0003*
county extension office	54 43.9%	54 30.2%	.02*
books & magazines	87 70.7%	109 60.9%	.1
television	79 64.2%	101 56.4%	.2
friends	83 67.5%	107 59.8%	.2
pharmacists	75 61.0%	120 67.0%	.3
nurses	78 63.4%	109 60.9%	.7

*Significant level of probability.

The primary sources of health information for stable-patient-load county residents were as follows: (1) their own physician (108 respondents, 87.8 percent), (2) books and magazines (87 respondents, 70.7 percent), and (3) respondents' own county hospital and friends (each with 83

respondents, 67.5 percent). For the respondents of declining-patient-load counties, the results were: (1) their own physician (153 respondents, 85.5 percent), (2) pharmacists (120 respondents, 67 percent), and (3) their own county hospital (117 respondents, 65.4 percent) (Table 10).

Responses were compared by gender, age, education, and income for the 302 households responding to the survey. Three variables were identified as significantly different sources by gender, including (1) your own physician ($p = .05$), (2) books and magazines ($p = .005$), and (3) nurses ($p = .004$). In each instance, females reported these variables to be sources of health information significantly often more than did males (Table 11).

Analysis of sources of health information and age indicated a significant difference only for pharmacists ($p = .04$). Those 44 years of age and under indicated pharmacists to be a source of health information significantly more often than did those older than 45 years of age (Table 12). Analysis relative to sources of health information and respondents' education level indicated a significant difference only with respect to books and magazines ($p = .003$), which were listed as sources of health information significantly more often for those with some postsecondary education compared to those with a high school education or less (Table 13). Analysis of sources of health information and the income levels of the household produced no significant differences (Table 14).

Table 11. Chi-square Comparison of Sources of Information and Gender, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	Males yes	Males no	Females yes	Females no	Prob
your own physician	66	17	195	24	.05*
your county hospital	48	35	152	67	.08
other hospitals	24	59	81	138	.2
county extension office	31	52	77	142	.8
books & magazines	43	40	153	66	.005*
television	48	35	132	87	.8
friends	52	31	138	81	.0
pharmacists	48	35	147	72	.2
nurses	40	43	147	72	.004*

*Significant level of probability

Table 12. Chi-square Comparison of Sources of Information and Age, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	< 44 Years yes	< 44 Years no	≥ 45 Years yes	≥ 45 Years no	Prob
your own physician	125	21	136	20	.7
your county hospital	103	43	97	59	.1
other hospitals	54	92	51	105	.4
county extension office	53	93	55	101	.8
books & magazines	95	51	101	55	1.0
television	92	54	88	68	.2
friends	96	50	94	62	.3
pharmacists	103	43	92	64	.04*
nurses	97	49	90	66	.1

*Significant level of probability

Table 13. Chi-square Comparison of Sources of Information and Education, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	HS or Less		Some College		Prob
	yes	no	yes	no	
your own physician	117	22	134	19	.4
your county hospital	92	47	104	49	.7
other hospitals	50	89	53	100	.8
county extension office	47	92	59	94	.4
books & magazines	78	61	111	42	.003*
television	78	61	96	57	.2
friends	84	55	99	54	.5
pharmacists	83	56	107	46	.1
nurses	84	55	99	54	.5

*Significant level of probability

Table 14. Chi-square Comparison of Sources of Information and Income of Household, Regardless of Type of County (alpha level = .05).

Variable (total n=302)	≤ $19,999		≥ $20,000		Prob
	yes	no	yes	no	
your own physician	125	23	125	15	.2
your county hospital	94	54	96	47	.5
other hospitals	51	97	51	89	.7
county extension office	54	94	50	90	.9
books & magazines	91	57	96	44	.2
television	86	62	86	54	.6
friends	90	58	92	48	.4
pharmacists	91	57	95	45	.3
nurses	91	57	89	51	.7

Hypothesis Four

Ho_4 There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties on perceptions of satisfaction with care received, perceptions of availability of health care, and perceptions of the importance of the local rural hospital to the household (Ho: μ stable = μ declining).

Interval data were collected for each of these variables and means were computed for stable-patient-load and declining-patient-load counties. The z score was computed for each variable to determine if significant differences existed between the two types of counties.

For perceived satisfaction with care received in their county hospital, stable- and declining-patient-load counties had mean scores of 3.0 and 2.9, respectively. Based upon a four-point scale (ranging from extremely satisfied = 4 to not satisfied = 1), the mean scores for respondents from both types of counties represents a perception of "very satisfied." The resulting z produced a p = 0.3, indicating that no significant difference existed between the two types of counties relative to satisfaction with the care received in their county hospital (Table 15). The null hypothesis was not rejected. A z score analysis of stable- versus declining-patient-load counties resulted in means of 3.2 and 3.0, respectively and the results, p = .04, indicated that a significant difference existed between the two types of counties relative to perceived satisfaction with care received regardless of where the care was provided (Table 16). Stable-patient-load county respondents rated perceived satisfaction significantly higher than did those residing in

Table 15. Comparison of Stable PL Counties and Declining PL Counties Regarding Perceived Satisfaction With Care Received in Their County Hospital (alpha level = .05).

Variable (total n=360)	Mean of Stable P-Load (n=134)	Mean of Declining P-Load (n=226)	
perceived satisfaction with care received in county hospital	3.0	2.9	p = 0.3

Table 16. Comparison of Stable PL Counties and Declining PL Counties of Perceived Satisfaction With Care Received Regardless of Where the Care Was Provided (alpha level = .05).

Variable (total n=446)	Mean of Stable P-Load (n=183)	Mean of Declining P-Load (n=263)	
perceived satisfaction with care received regardless of hospital location	3.2	3.0	p = 0.04

*Significant level of probability

declining-patient-load counties when all cases of hospitalization were considered (N = 446). An identical four-point rating scale was used to tabulate respondents' perceived satisfaction with care received in hospitals outside their county of residence. Tabulated mean scores for stable- and declining-patient-load counties were 3.6 and 3.4, respectively. The resulting p = 0.2 indicated that no significant differences existed between the two types of counties relative to perceived satisfaction of care received in hospitals outside their county of residence (Table 17). These results indicated that the residents of stable-patient-load counties are significantly more satisfied

with care received from other hospitals in comparison to residents of declining-patient-load counties.

Table 17. Comparison of Stable PL Counties and Declining PL Counties Regarding Perceived Satisfaction With Care Received in Hospitals Outside Their County of Residence (alpha level = .05; total n=77).

Mean of Stable PL Counties n=48	Mean of Declining PL Counties n=29	
3.6	3.4	p = 0.2

Comparison of mean scores relative to the availability of health care for the household for stable- and declining-patient-load counties resulted in means of 2.9 and 3.0, respectively. Applying a four-point rating scale (excellent = 4, good = 3, fair = 2, poor = 1), these responses represented a rating of "good." The calculations resulted in p = 0.6, indicating that there were no significant differences between the two types of counties relative to the perceived availability of health care for the household (Table 18). The null hypothesis was not rejected.

Table 18. Comparison of Stable PL Counties and Declining PL Counties Regarding Perceived Availability of Health Care for the Household (alpha level = .05).

Variable (total n=302)	Mean of Stable P-Load (n=123)	Mean of Declining P-Load (n=179)	
perceived availability of health care for the household	2.9	3.0	p = 0.6

Computed mean scores for the perception of the importance of the local county hospital to the household resulted in mean scores of 3.1 and 3.3, respectively, for stable- and declining-patient-load counties. Applying a four-point rating scale (extremely important = 4, very important = 3, somewhat important = 2, not important = 1), respondents in the stable-patient-load counties represented this perception as "very important," while respondents in declining-patient-load counties represented a perception range between "very important" and "extremely important." The resulting p = 0.02 indicated that significant differences existed between the two types of counties relative to the importance of the local hospital to the household (Table 19). The null hypothesis was rejected. Residents of declining-patient-load counties perceived the county hospital to be of greater importance than did the residents of stable-patient-load counties. This difference implied that residents of the declining-patient-load counties were more likely to use their county hospital than were the residents of the stable-patient-load counties.

Table 19. Comparison of Stable PL Counties and Declining PL Counties Regarding Perceived Importance of the Local County Hospital to the Household (alpha level = .05).

Variable (total n=300)	Mean of Stable P-Load (n=122)	Mean of Declining P-Load (n=178)	
perceived importance of local county hospital to the household	3.1	3.3	p = 0.02

A chi-square comparison between the responses of the stable- and declining-patient-load counties' residents to the question, "are you currently covered by insurance?" produced a value of p = .2, which indicated that no significant difference existed between the two types of counties. The null

hypothesis was not rejected. At the time the survey was administered, 103 (83.7 percent) of the respondents in the stable-patient-load counties and 138 (77.1 percent) of the respondents in the declining-patient-load counties were covered by some type of insurance. Thus, only a slightly greater percentage of the respondents in stable-patient-load counties were covered by some type of insurance than were respondents residing in declining-patient-load counties (Table 20). Although significance was not established relative to insurance coverage, 61 (20 percent) of the 302 respondents reported that they were not personally covered by current health insurance. However, 210 (69.5 percent) of the respondents reported that others in the household were currently covered by insurance, while 34 respondents (11.3 percent) reported that others in the household were not covered by insurance (Table 21).

Table 20. Chi-square Comparison of Stable PL Counties and Declining PL Counties Regarding Insurance Coverage (alpha level = .05).

Variable	Stable PL Counties n=135		Declining PL Counties n=228		
	yes	no	yes	no	
Are you currently covered by some type of health insurance?	103 (83.7%)	20 (16.3%)	138 (77.1%)	41 (22.9%)	p = 0.2

Table 21. Other Members of Household With Insurance Coverage.

Response	Number	Percent
yes	210	69.5
no	34	11.3
I live alone	51	16.9
don't know, no answer	7	2.3
Total	302	100.0

Chi-square comparisons were made between the stable- and declining-patient-load counties to determine if significant differences existed between the types of treatments sought by residents of the two types of counties. The number of subjects who sought care in their county hospital for purposes of surgery were, for stable- and declining-patient-load counties, respectively, 14 (10.4 percent) and 38 (16.7 percent). A chi-square of 7.5, $p = 0.4$, indicated that no significant differences existed between the two types of counties relative to the types of treatment rendered by the two types of hospitals considered in the study (Table 22).

Table 22. Description and Chi-square Analysis of Stable PL Counties And Declining PL Counties Pertaining to Type of Treatment Sought in Their County Hospital (alpha level = .05).

Treatment	Stable PL Counties (total n=135)		Declining PL Counties (total n=228)	
	cases	percent	cases	percent
surgery	14	10.4	38	16.7
emergency care	56	41.5	104	45.6
birth	7	5.2	14	6.2
lab tests	33	24.4	43	18.9
physical exams	10	7.4	11	4.8
lab tests and physical exams combined	2	1.5	1	0.7
other	13	9.6	16	7.1
Total:	135	100.0	228	100.0
Chi-Square = 7.5; Prob = .4.				

The majority of hospitalization cases in the stable- (70 respondents, 51.9 percent) and the declining-patient-load counties (142 respondents, 62.3 percent) were for a combination of surgery/emergency care (Table 22). In stable- and declining-patient-load counties, respectively, there were 34 (69.4 percent) and 21 instances (56.7 percent) of surgery/emergency care (Table 23).

Table 23. Description of Stable PL Counties and Declining PL Counties Pertaining to Type of Treatment Sought in Hospitals Other Than Their Local County Hospital.

Treatment	Stable PL Counties (total n=49)		Declining PL Counties (total n=37)	
	cases	percent	cases	percent
surgery	23	46.9	16	43.2
emergency care	11	22.5	5	13.5
birth	1	2.0	1	2.7
lab tests	5	10.2	5	13.5
physical examis	2	4.1	0	0
lab tests and physical exams combined	0	0	0	0
other	6	12.3	5	13.5
don't know, no answer	1	2.0	5	13.5
Totals	49	100.0	37	99.9

Analyses pertinent to the length of stay per hospital visit for each respondent, relative to hospitalization in the respondent's own county hospital, was considered and comparisons were made between the two types of

counties. For 103 instances (76.3 percent) of hospitalization in the stable-patient-load hospitals, the length of treatment was less than 24 hours. A length of stay of less than 24 hours for treatment in the declining-patient-load hospitals occurred in 156 cases (68.4 percent). For stable-patient-load hospitals, only 23 cases (17 percent) involved patient stays of more than three days, while in declining-patient-load hospitals 39 cases (also 17 percent) involved hospitalizations of more than three days. There were a total of 363 cases of hospitalization within a respondents' own county of residence. Of these cases, 259 (71.3 percent) involved hospitalization periods of less than 24 hours, while 301 (82.9 percent) were for hospitalizations of less than two days. Hospitalization periods of more than three days in length occurred in 62 cases (17.1 percent) (Table 24).

Table 24. Description and Chi-square Analysis of Stable PL Counties and Declining PL Counties Pertaining to Length of Hospitalization in Their County Hospital (alpha level = .05).

Treatment	Stable PL Counties (total n=135)		Declining PL Counties (total n=228)	
	cases	percent	cases	percent
less than 24 hours	103	76.3	156	68.4
between 1 & 2 days	9	6.6	33	14.5
between 3 & 5 days	14	10.4	23	10.1
more than 5 days	9	6.6	16	7.0
Total:	135	99.9	228	100.0
Chi-Square = 5.2; Prob = .2.				

Chi-square analysis of the amounts of insurance coverage for instances of hospital visits by members of the respondent households in the

stable- and declining-patient-load counties was performed, resulting in chi-square = 11.6, p = 0.02. Stable-patient-load county residents obtained care for which no insurance payments were made at a rate of nearly 4 to 1 with respect to residents of declining-patient-load counties (Table 25).

Table 25. Description and Chi-square Analysis of Stable PL Counties and Declining PL Counties Pertaining to Insurance Coverage of Treatment Rendered in Their Local Hospital (alpha level = .05).

Treatment	Stable PL Counties (total n=135)		Declining PL Counties (total n=228)	
	cases	percent	cases	percent
full payment	38	28.1	75	32.9
partial payment	64	47.4	111	48.7
not insured	14	10.4	27	11.8
no payment	16	11.9	7	3.1
don't know	3	2.2	8	3.5
Total:	135	100.0	228	100.0

*Significant level of probability.
Chi-Square = 11.6; Prob = .02*.

Respondents were asked "if you were to go outside your county for hospital care, what would be the main reason for doing so?" A majority (59.3 percent) said that the "service needed is not available in my county hospital" (Table 26).

Table 26. Sample of 302 Respondents and Responses Pertaining to the Main Reason You Would Go Outside Your County of Residence For Hospital Care.

Variable	cases	percent
better doctors	67	22.2
better hospitals	30	9.9
service needed is not available in my county hospital	179	59.3
other reasons, don't know, no response	26	8.6
total	302	100.0

Summary

This chapter has provided a description of the respondents in the study relative to various demographic variables. Findings related to the major hypotheses, including those which were rejected and those which were not rejected, was discussed. Additional pertinent findings have been included in order to differentiate between the two types of hospitals included in the study.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was designed to analyze and compare responses from residents of four rural eastern Oregon counties regarding their patterns of hospital usage. Based upon data for the three-year period, 1985-1987, the hospitals in two of these counties (Baker and Wallowa) were identified as having stable-patient-loads and the hospitals in the remaining two counties (Grant and Union) were identified as having declining-patient-loads. The analysis was conducted to determine where statistically significant differences existed between responses given by respondents living in the two types of counties. Descriptive variable data gathered on the two types of hospitals were compared. Based on the findings of the study, this chapter presents (1) a summary of the study, (2) conclusions drawn from the data analysis, and (3) recommendations.

Summary

A survey instrument relating to hospital selection was developed and information was collected through a telephone interview of 302 randomly--selected residents of four rural Oregon counties during June, 1989. The respondents of the survey were identified by the interviewer as those individuals who were responsible for making decisions regarding health care for the members of households.

This study addressed the hospital selection patterns of the residents of Baker, Grant, Union, and Wallowa counties. Also of concern were the

sources of health information for the households in these counties, the reasons given for hospital selection, the perceived satisfaction with care received from their county hospitals, the perceived availability of health care for these residents, and the perceived importance of the local rural hospital to the respondents.

The following hypotheses were developed and tested:

Ho_1 There are no significant differences between stable-patient-load counties and declining-patient-load counties in the number of patients who seek treatment in their local county hospital and the number who opt for care in hospitals outside their home county.

Ho_2 There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties in reasons given for selecting a particular hospital (i.e., closeness, reputation, past experience, cost of care, quality of care, special services available, doctor's recommendation, friend's recommendation, family member's recommendation, better equipment, and accessibility).

Ho_3 There are no significant differences in the sources of health information for populations residing in stable-patient-load counties and for populations residing in declining-patient-load counties (i.e., physician, county hospital, other hospitals, county extension office, books and magazines, television, friends, pharmacists, and nurses).

Ho_4 There are no significant differences between populations residing in stable-patient-load counties and populations residing in declining-patient-load counties on perceptions of satisfaction with

care received, perceptions of availability of health care, and perceptions of the importance of the local rural hospital to the household.

Data analysis indicated that Ho_1 was rejected. Significant differences were identified when comparing the numbers of respondents from stable-patient-load counties and respondents from declining-patient-load counties who sought treatment from their county hospital with the numbers who opted for care from a hospital not within their county of residence. Residents from the stable-patient-load counties chose treatment in hospitals outside their country of residence significantly more often than did residents from declining-patient-load hospitals (Table 2).

The results of the data analysis of Ho_2 revealed that significant differences existed between the two types of counties relative to 4 of the 11 variables: cost of care, special services available, doctor's recommendation, and better equipment. The null hypothesis was rejected for these variables. In each instance where the null hypothesis was rejected, residents of the stable-patient-load counties indicated that these variables were factors in hospital selection significantly more of than did residents of the declining-patient-load counties (Tables 4 and 5).

Results of the data analysis for Ho_3 revealed significant differences between the two types of hospitals for two of the nine health information variables. Stable-patient-load residents obtained health information from other hospitals and from their county extension office significantly more often than did the residents of declining-patient-load hospitals. The null hypothesis was rejected relative to these two variables (Table 10).

Results of the data analysis for Ho_4 indicated significant differences between the two types of hospitals relative to the perceived importance of the local county hospital to their household. The null hypothesis was rejected for this variable (Table 19). Residents of counties with access to declining-patient-load hospitals rated the importance of the local hospitals significantly higher than did residents of counties with access to stable-patient-load hospitals. Without regard to the county of residence or where the care was provided, analysis of the perceived satisfaction with care resulted in $p = 0.04$. The residents of counties with stable-patient-load hospitals (mean = 3.2) rated care significantly higher than did the residents of counties with declining-patient-load hospitals (mean = 3.0) (Table 16). Therefore, the null hypothesis was not rejected relative to the two variables, perceived satisfaction with care received in a local hospital and perceived availability of health care for the household (Tables 15 and 18). The ratings indicated there were no significant differences in perceived satisfaction or with the perceived availability of health care between the residents of counties with the two types of hospitals.

Conclusions

The results of the analysis of Ho_1 presented unexpected findings. First, it was expected that since the stable-patient-load hospitals had been identified as such, patients in these counties would use their county hospital and go outside their county for care less than would residents of declining-patient-load counties. This was not the case. The findings of this study indicate that those who reside in counties with declining-patient-load hospitals remain within their local county for hospital care significantly

more often than do those from counties with stable-patient-load hospitals. The following explanation of this apparent contradiction is offered.

The most recent discharge statistics provided by the Oregon Office of Health Policy (Franck-Weiby, 1989) reveal the following data for the stable-patient-load hospitals included in the study: St. Elizabeth Hospital in Baker County, 944 discharges in 1988, down from 1,092 in 1987; Wallowa Memorial Hospital in Wallowa County, 608 discharges in 1988, down from 639 in 1988. The figures for the declining-patient-load hospitals included in the study are: Blue Mountain Hospital in Grant County, 409 discharges in 1988, down from 543 in 1987; Grande Ronde Hospital in Union County, 2,503 discharges in 1988, up from 2,170 in 1987 (Figures 2 and 3).

It is uncertain if these trends will continue. The Grande Ronde Hospital in Union County eliminated 35 licensed beds in 1987, which could have influenced the discharge numbers and the percentages for that county. Positive changes in the perception of quality and the availability of health care at Grande Ronde Hospital could account for residents remaining in the county for care more often than was the case during past years. In addition, any recent positive media exposure could have helped to generate an increase in patient load at Grande Ronde Hospital by Union County residents, as well as by residents of neighboring counties. It is possible that utilization patterns in these hospitals are predictably cyclic: during some years there are increases in usage, during some years there is steady usage, and during other years there are declines in usage. By examining past discharge records over substantial lengths of time and charting the findings, it could be determined if cyclic patterns of use were the rule. If so, it could be assumed

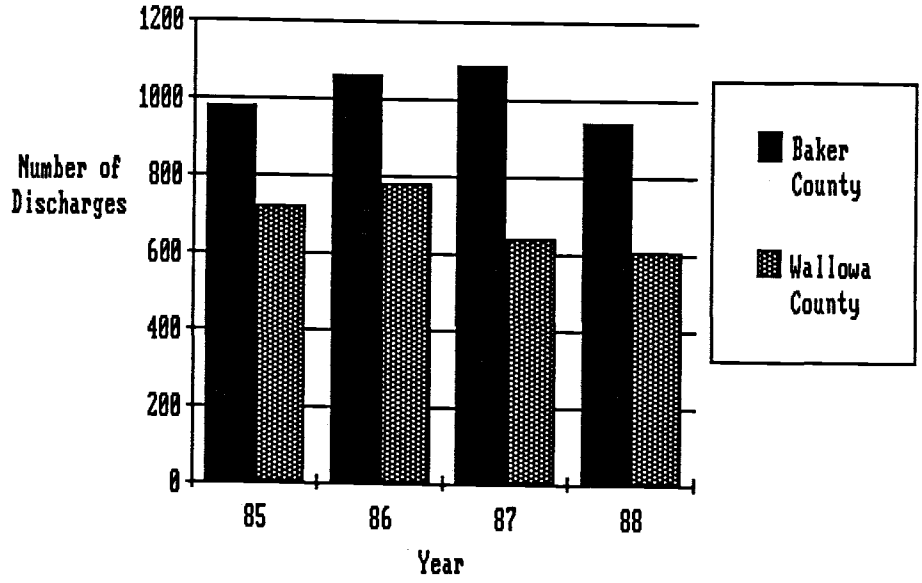

Figure 3. Stable Patient Load Counties.

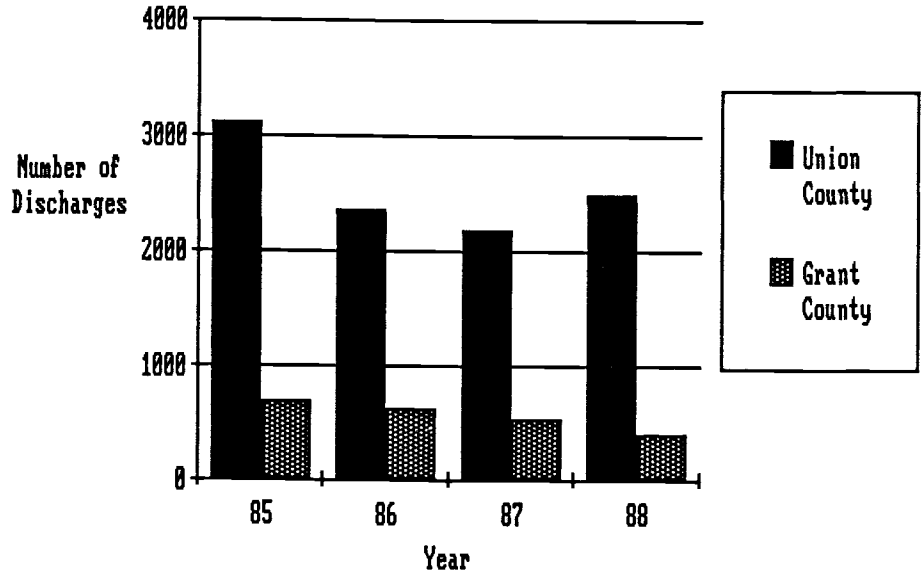

Figure 4. Declining Patient Load Counties.

that the usage patterns identified in this study are a part of an oscillating cycle.

By being aware of the financial status of their county hospitals, the residents of counties with declining-patient-load hospitals could make concerted efforts to protect their hospitals from closure by using the services of their county hospitals rather than looking elsewhere for care. Likewise, residents of counties with stable-patient-load hospitals might not feel this sense of urgency, due to the perception that their hospital is relatively financially sound and therefore "protected" from closure. These residents might then feel free to "shop around" for care without jeopardizing the viability of their local county hospitals. County newspapers often report financial information regarding local hospitals. Some rural residents believe that when local hospitals are forced to close, the local county economy will also die (Holthaus, 1989). Permanent county residents may feel an obligation to use their local hospital rather than to look elsewhere for care. If residents of Grant and Union Counties feel this way, hospital choices could be explained as a function of protection from possible closure.

As a recent innovation in rural health care, Montana was in 1988 awarded a $100,000 grant to develop an alternative to the rural hospital called a medical assistance facility (MAF) (Holthaus, 1989). The concept of the MAF is to provide certain core services, including emergency care, basic medical care, and outpatient surgery. Patients are limited to stays of 96 hours or less and the MAF staff is allowed to admit patients in consultation with physicians located outside the residence county of the facility. Pharmacy and medical record processing can also be conducted by way of remote consultation. The theory is that a MAF could close temporarily

when it has no patient load, resulting in substantial monetary savings in that the institutions would not be open and operating 24-hours per day, but only as care is needed. Patients would be taken directly to the nearest hospital for problems which the MAFs are not equipped to handle.

A majority of respondents to the present study (267 cases, 59.5 percent) sought care for minor surgery and emergency care and 71 percent (259 cases) of those who sought care in their county hospitals had stays of less than 24 hours (Table 24). By improving existing emergency services, outpatient surgery services, and by prioritizing the remaining programs based on patient needs, hospitals could find the means to improve patient satisfaction as well as achieve a greater degree of financial stability. If the hospitals included in this study are representative of other rural hospitals in Oregon, some jurisdictions might adopt the MAF program as an alternative to the current health care delivery system. The MAF program would be preferable to hospital closure and could provide primarily needed health care services to rural Oregonians.

Hospital administrators and community leaders need to be aware of implications of selling marginally economic institutions to private entrepreneurs who specialize in the purchase or lease some of financially troubled rural hospitals. Local officials should conduct their own cost-benefit analysis before allowing private enterprise to acquire failing rural hospitals. Typically, privately-owned businesses curtail nonprofitable acute care beds, add special services to keep residents from travelling to the nearest city for treatment, and provide 24-hour emergency care (Fasse, 1986). More than one organization has turned a profit by revising the services to better reflect patient needs. However, the typical private takeover

results in higher prices (e.g., average bed rates of $700.00 per day prior to takeover rose to $1,150.00 per day following takeover) since these organizations are quick to assert that quality and efficiency is improved under their management. Average patient stays in such hospitals are reportedly reduced from 5.5 days prior to takeover to 3.2 days following takeover. The result is higher costs per day with shorter hospital stays. The critics of these private organizations feel that the profit motive is so embedded in their purpose that quality care declines with the takeover. The question posed is "what costs are the hospital administrators willing to bear in order to maintain the benefits of local hospital control?"

The provision of health care in rural areas is not the only area into which private businesses are moving. The selling of prepaid health care plans to rural populations is another area under development by private health insurers. Regardless of positive or negative opinions toward these ventures, it is clear the private sector has entered the health care arena with strategies for the development, expansion, and growth of rural health care. It remains to be determined if this is a step in a positive direction for the population of rural America.

Recommendations

The present study subjected recent hospital usage patterns by residents of given counties to only a summary examination regarding care received within the previous two years. In the long-term, further research is suggested in the specific areas of (1) specific sources of health information by county residents, (2) satisfaction with local hospitals, (3) reasons for bypassing the county hospital, (4) what new programs would serve to benefit

residents more than others, and (5) which of these programs are potentially cost effective. Results should be periodically charted in order for administrators to see graphically what is happening in their own hospital relative to patient usage. Also of interest to administrators might be the extent to which county residents bypass their local hospital for care. The present study represents a look at this portion of the usage picture. Polling residents periodically could provide a clearer answer to the apparent oscillating effect of usage patterns. Charting discharges from year to year could provide data from which expected usage could be interpolated, thereby alerting administrators to possible downturns in patient loads.

From a more practical and short-term perspective, local hospital administrators could obtain information relative to residents' specific health care needs through periodic area telephone surveys. The data could be provided not only by those who have used local hospitals, but from all area residents as well. This procedure would serve to communicate the hospital administration's interest in the residents' needs and opinions. In fact, it is suggested that this type of approach is essential to the existence and expansion of the services offered by local hospitals. If professionally handled properly, this strategy could offer residents a sense of involvement with decisions focusing on their households' health care needs and the financial well-being of the local community and county. The advantage of periodic opinion polls for hospital administrators lies in learning first-hand from county residents what their opinions are relative to local health care. Results could be reflected in the improvement of existing programs and in the implementation of new programs based on perceived needs as well as feasibility. If the public perceives the local hospital to be an efficiently run,

caring environment, it may be assumed that the public will act accordingly and use local facilities whenever possible. Perception is reality. To ensure a positive image, hospitals need greater public involvement.

From the information collected from the surveys, charts could be constructed to help determine usage patterns in order to better prepare for possible future variations in utilization. The reasons given by county residents for bypassing their local hospital for care elsewhere would be of primary interest. Bearing in mind that small rural hospitals cannot be all things to all people, local hospital administrators need to provide services which address the deepest concerns of the citizens and which are financially feasible. Those services rendered by the local hospital need to be of the highest quality possible, considering such limiting circumstances as the availability of staff and equipment. New staff, and their specialties, and new programs offered by the hospitals should be publicized in order to keep the public informed of local hospital capabilities. The qualifications and experience levels of emergency medical technicians (EMTs) should be publicized, along with those of ambulance personnel. The qualifications, experience, and other appropriate qualities of new physicians or nurses needs to be publicized.

The advertising media used to market services and information could be newspapers, radio, television, and direct mail. At the same time, public information need not be limited to educating the public outside the hospital. For example, when services needed are not available locally, referral procedures to other larger hospitals for specialized care becomes an essential part of this publicity effort.

Hospitals in rural Oregon must make use of the media in order to make the public aware of the services available in their hospitals. Mass media campaigns should be regular features in these counties. Nationally, 59 percent of small or rural hospitals use marketing techniques for public relations purposes (Lehrman, 1987). With little or no training in public relations work, the hospital administrator is usually responsible for these activities; therefore, each hospital must closely examine its own circumstances to determine how best to serve the public and inform the public of services and new programs that are currently available.

This study showed respondents under the age of 45 years differed significantly from those over 45 years of age relative to factors in hospital selection (closeness, accessibility, and friend's recommendation). Similarly, those over 45 years of age differed significantly from those under 45 years of age in three selection variables (reputation, doctor's recommendation, and better equipment) (Table 6). Accidents are the leading cause of death in the United States for people 42 years of age or less, and the leading causes of death for those over 42 years of age are coronary heart disease, cancer, and stroke, all of which are insidious, chronic diseases. It may be supposed that the younger population is not that concerned with hospital selection when care is sought for emergency care or minor surgery; they simply want immediate care for their problem. They would be less likely to "shop around," listen to doctors' recommendations, or look for better equipment. In contrast to this younger population, the older population is more sensitive to better equipment, specialized treatment, specialized staff, and a physician's recommendation for a hospital, regardless of location. This scenario is offered as an explanation for the differences given by residents relative

to these hospital selection variables and should be borne in mind as hospitals adjust their services offered to the nature of local populations.

Among new programs considered for local hospital implementation are wellness clinics, home health care, ambulatory care, outpatient products, industrial medicine, health clinics, and services with other hospitals or industry or other types of provisions for county residents. The implementation of new programs at the expense of older established programs needs a great deal of investigation and analysis. The appropriate questions are which services are most needed, which could be accommodated with existing facilities and resources, and which would be financially feasible? Beyond these issues, how involved is the community with decisions regarding local hospital programs and offerings? Would the local hospital be attempting to provide services that the public does not use, will go outside the county for anyway, and which may develop into a financial burden for the hospital? If hospitals have low occupancy rates, are there better uses for the spaces available? What type of planning is taking place in area hospitals? Will closure result before changes can be made? Are administrators waiting for the government to bail them out of financial woes? Changes in the PPS will take place too late for many rural hospitals. Are hospital administrators in Oregon current regarding new program trends in rural hospitals nationwide? What are some exemplary programs in other parts of the nation that might be followed as models? How financially sound are rural hospitals in Oregon? Hospital administrators and community leaders throughout Oregon must contend with and answer these questions satisfactorily if rural hospitals are to serve their public and remain open.

When planning for health care delivery changes within an existing hospital, it is the wise course to seek input from community leaders. If residents are to feel their input is valued, a board of advisers could include representatives from the financial, business, civic, government, educational, and religious sectors within the county. The practical administrator will be cognizant of most if not all organizations whose participation in planning might assist the efforts to establish long-range goals, activities, and programs for the local hospital. The health care planner, usually the hospital administrator, must be keenly aware of community planning procedures and strategies if the program has a chance for survival. The American Hospital Association makes numerous community and organizational publications and guidelines available. The establishment of long-range goals and strategies in small communities is necessary to help combat declining patient loads, to influence the community's perception of quality in the local hospital, and to influence the public's willingness to use local health care services which, in combination, work to guard against possible hospital closure.

A recent example of community involvement and support for the containment of health care costs in a large city with urban hospitals is the case of the Rochester Area Hospitals Corporation of Rochester, New York (Sutor, 1989). The largest employers in the community met with administrators of nine city hospitals prepare a budget based on their total joint operating costs for 1978. Each hospital in the city was provided with a budget which showed exactly how much money was available to spend for a given year. This joint budget led to the discovery and subsequent elimination of duplicate services within the city. Any funds the hospitals had left over from the budget was theirs to reallocate. Hospital administrators knew, with a

degree of certainty, the amount of revenues available for discretionary spending throughout the coming year. If a city the size of Rochester can rally support and cooperation from the many factions at work with a larger urban community, it is possible for rural communities to accomplish the same on a smaller scale.

If hospitals in rural America are to survive, health care planners for these areas must be aware that there are private business persons waiting for the financial failure of troubled hospitals so that they can move in and provide the services once provided by these hospitals. Corrective measures must be taken locally or this may happen on a much larger scale than we are presently witnessing. Without a doubt, the face of rural health care delivery is changing. Administrators must be aware of this and be ready with plans to answer outside takeovers if hospitals in rural communities are to be owned and run locally.

Long-range planning is no easy task and cannot be accomplished in a hasty manner. The problems have developed gradually, and they will be resolved gradually. Administrators must keep their institutions financially healthy until community organization can follow and fiscal growth can become a reality and be maintained. Many rural hospitals appear to be awaiting government intervention as a rescue from possible financial failure. Others feel that the revision of the PPS will simply delay the inevitable (the closure of many rural hospitals) by a few more years. Restructuring the PPS is certain to ease the faltering monetary condition of rural hospitals, but these institutions cannot rely solely on greater PPS remuneration to repair a situation of declining economic condition.

The answers lie, first, in providing a quality health care delivery system aimed at caring for the health care needs of those living in rural communities and, second, in the institution of marketing strategies designed to get the word to the public. Programs must be designed to meet the needs of the public. Innovation, insight, teamwork, perseverance, and tenacity are parts of the answer in initiating and maintaining viable, financially sound, local rural hospitals and health care delivery systems.

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APPENDIX

APPENDIX A

RURAL OREGON HOSPITAL SELECTION SURVEY

"Hello, I,m _____, and I'm calling for the Department of Health at Oregon State University. We are conducting a survey of people living in Eastern Oregon regarding hospital selection. I'd like to ask you a few questions about the selection process you use when you seek medical treatment in a hospital, if you don't mind.

The answers you give will be strictly confidential. The information will be used to help direct future decisions and policies concerning health care in rural Oregon. The interview is voluntary and if we should come to a question that you don't want to answer just let me know and we'll go on to the next question. Okay?

(INTERVIEWER: BE SURE TO RECORD LENGTH OF INTERVIEW TIME BELOW. TURN PAGE AND BEGIN INTERVIEW)

(INTERVIEWER: RECORD DATE, TIME AND RESULT OF EACH ATTEMPT TO CONTACT IN THE TABLE BELOW. NOTE APPOINTMENTS IN THE TIME OF RECALL COLUMN)

Date	Time	Interviewer	Result Code	Time of Recall

Length of Interview _____

R's Phone No. _____

Result Codes

Make Callbacks:

01 No answer
02 Busy
03 Answering Machine
04 R not available

Don't make Callbacks

05 Disconnected
06 Refused
07 Refused Midway
08 Completed

RURAL OREGON HOSPITAL SELECTION SURVEY

1. What county do you live in?

BAKER 1
GRANT 2
UNION 3
WALLOWA 4
OTHER (TERMINATE) 5

2. How long have you lived in this county?

TWO YEARS OR MORE 1
LESS THAN TWO (TERMINATE) 2
DK/NA 9

3. Have you or any members of your household received services from a hospital within the past two years?

YES 1
NO (TERMINATE) 2
DK/NA 9

3a. Is your county hospital EXTREMELY IMPORTANT, VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT to you and your household?

EXTREMELY IMPORTANT 4
VERY IMPORTANT 3
SOMEWHAT IMPORTANT 2
NOT IMPORTANT 1
DK/NA 9

4. Since some of the questions in this survey concern each person living in your household, I'd like to get a more complete picture of the individuals in your household. Could you please name them by first name? Let's start with you. (INTERVIEWER: NOW ASK FIRST NAME, RELATIONSHIP TO RESPONDENT, SEX OF THE INDIVIDUAL, THE AGE OF THE INDIVIDUAL, AND WHETHER OR NOT HE/SHE HAS RECEIVED SERVICES FROM A HOSPITAL)

PERSON NUMBER	FIRST NAME	RELATIONSHIP TO R	CODE	SEX		AGE	HOSPITALIZED	
				M	F		YES	NO
1	_____	Respondent	01	1	2	____	1	2
2	_____	_____	____	1	2	____	1	2
3	_____	_____	____	1	2	____	1	2
4	_____	_____	____	1	2	____	1	2
5	_____	_____	____	1	2	____	1	2
6	_____	_____	____	1	2	____	1	2
7	_____	_____	____	1	2	____	1	2
8	_____	_____	____	1	2	____	1	2

(INTERVIEWER: ENTER RELATIONSHIP CODES FROM BELOW IN THE BOX LABELED "CODE" IN THE TABLE ABOVE. YOU MAY DO THIS AFTER THE INTERVIEW, BUT BE SURE YOU HAVE ALL THE INFORMATION YOU NEED TO CODE PROPERLY. NOTE THAT WE WANT SPECIFICS WHERE CHILDREN ARE CONCERNED)

01	RESPONDENT (R)	10	FATHER; FATHER-IN-LAW
02	SPOUSE	11	MOTHER; MOTHER-IN-LAW
03	OTHER NON-RELATED ADULT	12	GRANDMOTHER; GRANDMOTHER-IN-LAW
04	SON	13	GRANDFATHER; GRANDFATHER-IN-LAW
05	STEP-SON	14	AUNT; UNCLE
06	FOSTER SON	15	COUSIN
07	DAUGHTER	16	OTHER RELATIVE
08	STEP-DAUGHTER	17	OTHER NON-RELATED PERSON
09	FOSTER DAUGHTER		

(INTERVIEWER: ON THE COLORED PAGES THAT FOLLOW, QUESTIONS 5 THROUGH 12 WILL BE ASKED OF EVERYONE IN THE HOUSEHOLD WHO HAS BEEN HOSPITALIZED. PLEASE IDENTIFY ABOUT WHOM YOU ARE ASKING, R FIRST IF R HAS BEEN HOSPITALIZED, THEN OTHER MEMBERS OF THE HOUSEHOLD, IF THEY HAVE BEEN HOSPITALIZED. USE AS MANY COLORED PAGES AS NEEDED TO RECORD INFORMATION ON ALL HOUSEHOLD MEMBERS WHO HAVE BEEN HOSPITALIZED)

Person Number

(INTERVIEWER: ASK QUESTIONS 5 THROUGH 12 OF EVERYONE IN HOUSEHOLD WHO HAS BEEN HOSPITALIZED)

5. When (NAME)_____ received treatment, was it . . .

WITHIN THE PAST 3 MONTHS 1
BETWEEN 3 TO 6 MONTHS AGO 2
BETWEEN 6 MONTHS AND 9 MONTHS AGO 3
BETWEEN 9 MONTHS AND 1 YEAR AGO 4
OVER ONE YEAR AGO 5

6. Was this in the hospital in . . .

BAKER COUNTY (Baker) 1
GRANT COUNTY (John Day) 2
UNION COUNTY (LaGrande) 3
WALLOWA COUNTY (Enterprise) 4
DON'T REMEMBER 5
OTHER (SPECIFY) 6

7. Was this treatment for . . .

SURGERY 1
EMERGENCY CARE 2
BIRTH 3
LAB TESTS 4
PHYSICAL EXAMINATION 5
OTHER (SPECIFY) 6

8. How long was the stay?

LESS THAN 24 HOURS 1
BETWEEN 1 AND 2 DAYS 2
BETWEEN 3 AND 5 DAYS 3
MORE THAN 5 DAYS 4

9. How much did insurance pay to cover these services?

FULL PAYMENT 1
PARTIAL PAYMENT 2
PATIENT NOT INSURED ..... 3--(SKIP TO Q.11)
NO PAYMENT (SPECIFY) 4

10. What type of health insurance?

MEDICARE 1
WORKERS' COMPENSATION 2
SELF INSURED 3
INSURED THROUGH EMPLOYER 4
OTHER (SPECIFY) 5

11. I am now going to read you a list of possible reasons why this particular hospital was chosen. When treatment was last sought from a hospital, did **(INTERVIEWER: READ ITEMS LISTED BELOW)** enter into the decision to use that particular hospital? **(INTERVIEWER: TO EACH YES ANSWER, ASK R HOW IMPORTANT THIS ITEM WAS IN THE DECISION)** Was this EXTREMELY IMPORTANT, VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT in the decision to use that hospital?

	YES	NO	EXTREMELY IMPORTANT	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DK/NA
a. closeness	1	2	4	3	2	1	9
b. reputation	1	2	4	3	2	1	9
c. past experience	1	2	4	3	2	1	9
d. cost	1	2	4	3	2	1	9
e. quality of care	1	2	4	3	2	1	9
f. special services	1	2	4	3	2	1	9
g. doctor's recommendation	1	2	4	3	2	1	9
h. friend's recommendation	1	2	4	3	2	1	9
i. family member's recommendation	1	2	4	3	2	1	9
j. better equipment	1	2	4	3	2	1	9
k. accessibility	1	2	4	3	2	1	9
l. other	1	2	4	3	2	1	9
m. no other hospital available (VOL)	1						

12. Were you EXTREMELY SATISFIED, VERY SATISFIED, SOMEWHAT SATISFIED, or NOT SATISFIED with the quality of care (NAME)_____ received at that hospital?

EXTREMELY SATISFIED 4
VERY SATISFIED 3
SOMEWHAT SATISFIED 2
NOT SATISFIED 1
DK/NA 9

13. Do you, yourself, currently have health insurance?

YES 1
NO 2

14. Do other members of your household currently have health insurance?

YES 1
NO 2
I LIVE ALONE 3
SOME DO/SOME DO NOT 4
DON'T KNOW 9

15. I'd like to read you a list of possible sources of health information. As I read each one, please tell me whether or not it is a source of information for you.

		YES	NO
a.	your own physician	1	2
b.	your county hospital	1	2
c.	other hospitals	1	2
d.	the county extension office	1	2
e.	books and magazines	1	2
f.	television	1	2
g.	friends	1	2
h.	pharmacist	1	2
i.	nurses	1	2
j.	other (specify)	1	2

16. If you were to go outside your county of residence for health care, which <u>one</u> of the following would best describe the <u>main</u> reason you might choose to do so?

BETTER DOCTORS 1
BETTER HOSPITALS 2
SERVICE NEEDED IS NOT AVAILABLE IN YOUR COUNTY HOSPITAL 3
OTHER (SPECIFY) 4

17. Overall how would you rate the availability of health care for you and your household? Is it EXCELLENT, GOOD, FAIR, or POOR?

EXCELLENT 4
GOOD 3
FAIR 2
POOR 1

18. Why do you say that? **(INTERVIEWER: PLEASE USE THE BACK OF THIS PAGE TO RECORD ANSWERS FOR NUMBERS 18 AND 19)**

19. Is there anything you would like to say about health care in your county?

Now, there are just a few more questions about you and your household I need to ask. Your answers to these questions will help me group the results for tabulation. Remember, all responses are strictly confidential.

20. In which of these broad age groups do you fall?

18 TO 29 1
30 TO 44 2
45 TO 59 3
60 AND OVER 4

21. What is the highest educational level you have attained?

GRADE 6 OR LESS 01
GRADE 8 OR LESS 02
GRADE 11 OR LESS 03
HIGH SCHOOL GRADUATE 04
G. E. D. 05
SOME COLLEGE 06
TRADE OR TECHNICAL SCHOOL 07
TRADE OR TECH SCHOOL GRAD 08
COMMUNITY COLLEGE GRADUATE 09
UNIVERSITY OR 4-YEAR COLLEGE GRADUATE 10
OTHER (SPECIFY) 11

22. Approximately, what was your total household income before taxes in 1988, was it . . .

LESS THAN $10,000.00 1
$10,000.00 TO $19,999.00 2
$20,000.00 TO $40,000.00 3
MORE THAN $40,000.00 4

THIS IS THE END OF THE SURVEY. THANK YOU VERY MUCH FOR YOUR CONTRIBUTION TO THIS STUDY.

Phone Number of R_____ Interviewer_____

Date_____ Total Time of Interview_____